



MP245 RIDING TROWEL

OPERATIONS & PARTS MANUAL
MANUAL PART #: 067975 | REVISION: A

Riding Trowel

OPERATIONS - PARTS

MANUAL

This manual covers the products listed below:

<u>Part No.</u>	<u>Description</u>
050000	MP245 Riding Trowel

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Limited Warranty

Allen Engineering Corporation ("Allen") warrants its products to be free of defects in material or workmanship for:

TWO YEARS FROM END USER'S DATE OF PURCHASE

Warranty period begins on the date of purchase by the End User of the product. All warranty is based on the following limited warranty terms and conditions, including the disclaimer of implied warranties and consequential damages.

1. Allen's obligation and liability under this warranty is limited to repairing or replacing parts if, after Allen's inspection, there is determined to be a defect in material or workmanship. Allen reserves the choice to repair or replace.
2. If Allen chooses to replace the part, it will be at no cost to the customer and will be made available to the Allen Distributor, Dealer, or Rental Center from whom the End User purchased the product.
3. Replacement or repair parts, installed in the product, are warranted only for the remainder of warranty period of the product as though they were the original parts.
4. Allen does not warranty engines or batteries. Engine warranty claims should be made directly to an authorized factory service center for the particular engine manufacturer. Batteries are not warranted due to unknown treatment during transport, etc, and any battery claims should be directed to the battery manufacturer.
5. Allen's warranty does not cover the normal maintenance of products or its components (such as engine tuneups and oil & filter changes). The warranty also does not cover normal wear and tear items (such as belts and consumables).
6. Allen's warranty will be void if it is determined that the defect resulted from operator abuse, failure to perform normal maintenance on the product, modification to product, alterations or repairs made to the product without the written approval of Allen. Allen specifically excludes from warranty any damage to any trowels resulting from an impact to the rotors.
7. Impact damage to gear boxes is not covered under the Allen warranty and is deemed customer abuse.
8. Allen will pay shop labor on warranty items at the Allen Shop Labor Rate in existence on the date of the warranty claim. An Allen labor chart will determine the time allowed to complete a repair and will govern the shop labor hours that will be allowed.
9. Allen will pay freight on warranty replacement parts at worldwide standard ground rates. No warranty replacement parts will be shipped air freight at the expense of Allen. Allen only pays outbound freight charges when sending warranty replacement parts to the customer via ground service. Allen does not pay any inbound freight. However, if Allen determines this to be a warranted item, only then will Allen reimburse the customer for inbound freight at standard ground rates.
10. ALLEN ENGINEERING CORPORATION'S WARRANTY POLICY WILL NOT COVER THE FOLLOWING: TAXES; SHOP SUPPLIES; ENVIRONMENTAL SURCHARGES; AIR FREIGHT; TRAVEL TIME; LOSS OF TIME; INCONVENIENCE; LOSS OF RENTAL REVENUE; RENTAL COSTS OF EQUIPMENT USED TO REPLACE THE PRODUCT BEING REPAIRED; LOSS OF USE OF THE PRODUCT; COMMERCIAL LOSS; OR ANY OTHER CHARGES WHATSOEVER OR ANY LIABILITIES FOR DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGE OR DELAY.
11. ALLEN ENGINEERING CORPORATION MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THIS LIMITED WARRANTY IS IN LIEU OF THE WARRANTY OF MERCHANTABILITY AND FITNESS. THERE ARE NO OTHER WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THIS DOCUMENT.
12. No Allen employee or representative is authorized to change this warranty in any way or grant any other warranty unless such change is made in writing and signed by an officer of Allen Engineering Corporation.

Information Contained in this Manual



This manual provides information and procedures to safely operate and maintain the Allen Machine.

For your own safety and protection from personal injury, carefully read, understand, and observe the safety instructions described in this manual. Keep this manual or a copy of it with the machine at all times.

Always operate this machine in accordance with the instructions described in this manual. A well maintained piece of equipment will provide many years of trouble free operation.

This manual is divided into the following sections:

SECTION 1 SAFETY

SECTION 2 OPERATIONS

SECTION 3 SERVICE

SECTION 4 PARTS

Complete any warranty requirements as specified by the engine manufacturer in their instructions found inside the manual box located on the operator's control panel.

Your engine is not manufactured by Allen Engineering Corporation, Inc, and therefore is not covered under Allen Engineering Corporation, Inc warranty.

Your engine manufacturer should be contacted if you wish to purchase a parts manual or a repair manual for your engine.

Refer to enclosed owners engine manual for complete O&M instructions. See your battery manufacturer for battery warranty.

Dealer Information

Your Dealer has Allen Engineering Corporation trained mechanics and original Allen replacement parts. Always contact the Allen Dealer who sold you this machine for Allen Certified repairs and replacement parts.

Place Allen Dealer information below for future reference.

Dealer Name: _____

Phone #: (____) - ____ - _____

Address: _____

City: _____ State: _____ Zip: _____

Salesman: _____ Mobile Phone _____

Additional Comments: _____



Ordering Parts

Section 4 contains illustrated parts lists for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the "PARTS" section of this manual.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. DO NOT return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC dealer nearest you.



All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

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Model Number - Serial Number Codes

Manufacturer's Codes:

When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine. The legends below specifically defines each significant character or group of characters of the Model Number and Serial Number codes.

Model Number

MP 245

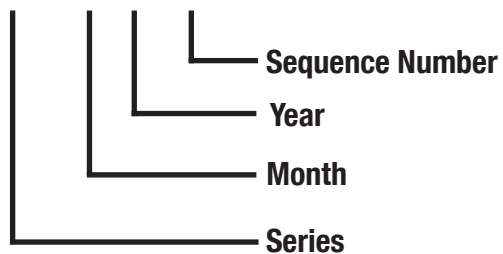


Serial Number

The serial number found on the identification plate is a ten digit format. The model number identifies your machine and will ensure that you receive the correct replacement parts.

Serial Number Example

245 12 17 002



Unit Identification

Unit Identification Plate Location:

An identification plate listing the model number and the serial number is attached to each unit and is located on the top left corner of the operator end handle. See image below for serial number plate location. This plate should not be removed at any time.

Please record the information found on this plate below so it will be available should the identification plate become lost or damaged. When ordering parts or requesting service information, you will always be asked to specify the model and serial numbers of the machine.

FILL IN FOR FUTURE REFERENCE

Model Number: _____

Serial Number: _____

Date Purchased: _____

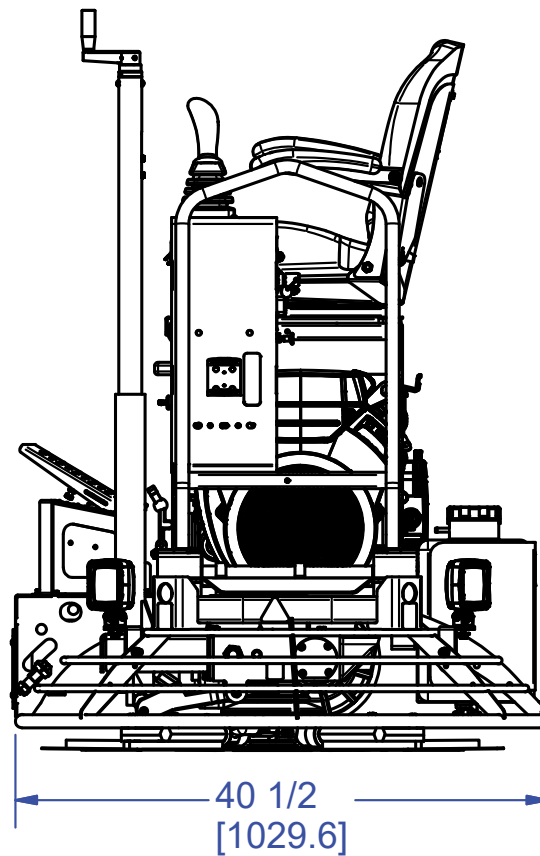
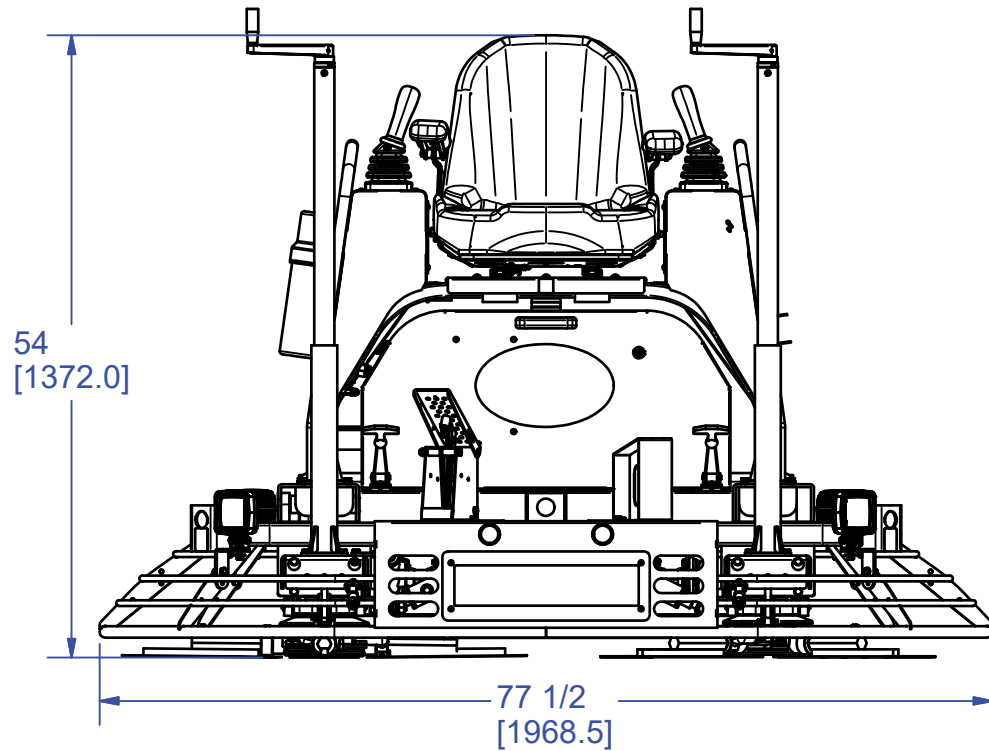
Purchased From: _____



Technical Specifications

DESCRIPTION	MP245
ENGINE	Honda GX690 (688 cc)
HORSEPOWER CLASS	22.1 hp (16.5 kW)
FUEL TYPE	Air-Cooled Gasoline
PANNING PATH WIDTH	74 in (188 cm)
ROTORS (DIAMETER)	36 in (91.4 cm) 4-Bladed Spider
MAXIMUM ROTOR SPEED	145 rpm
STEERING CONTROL SYSTEM	Hydraulic
FUEL CAPACITY	6 gal (23 L)
RETARDANT CAPACITY	6 gal (23 L)
WEIGHT	830 lb (376 kg)
DIMENSIONS (L X W X H)	78 x 41 x 53 in (198 x 104 x 135 cm)
HYDRAULIC RESERVOIR	1.95 gal (7.3 L)
FIXED GUARD RINGS	Standard
GEARBOX ROTATION	Standard
BATTERY	12V
SAFETY SHUTDOWN SWITCH	Seat Controlled
RUN-TIME (APPX)	2.5 Hours
TRANSMISSION	Torque Converter
DRIVE BELT	Kevlar Cogged Vee
HOURLY METER	Digital

Machine Dimensions



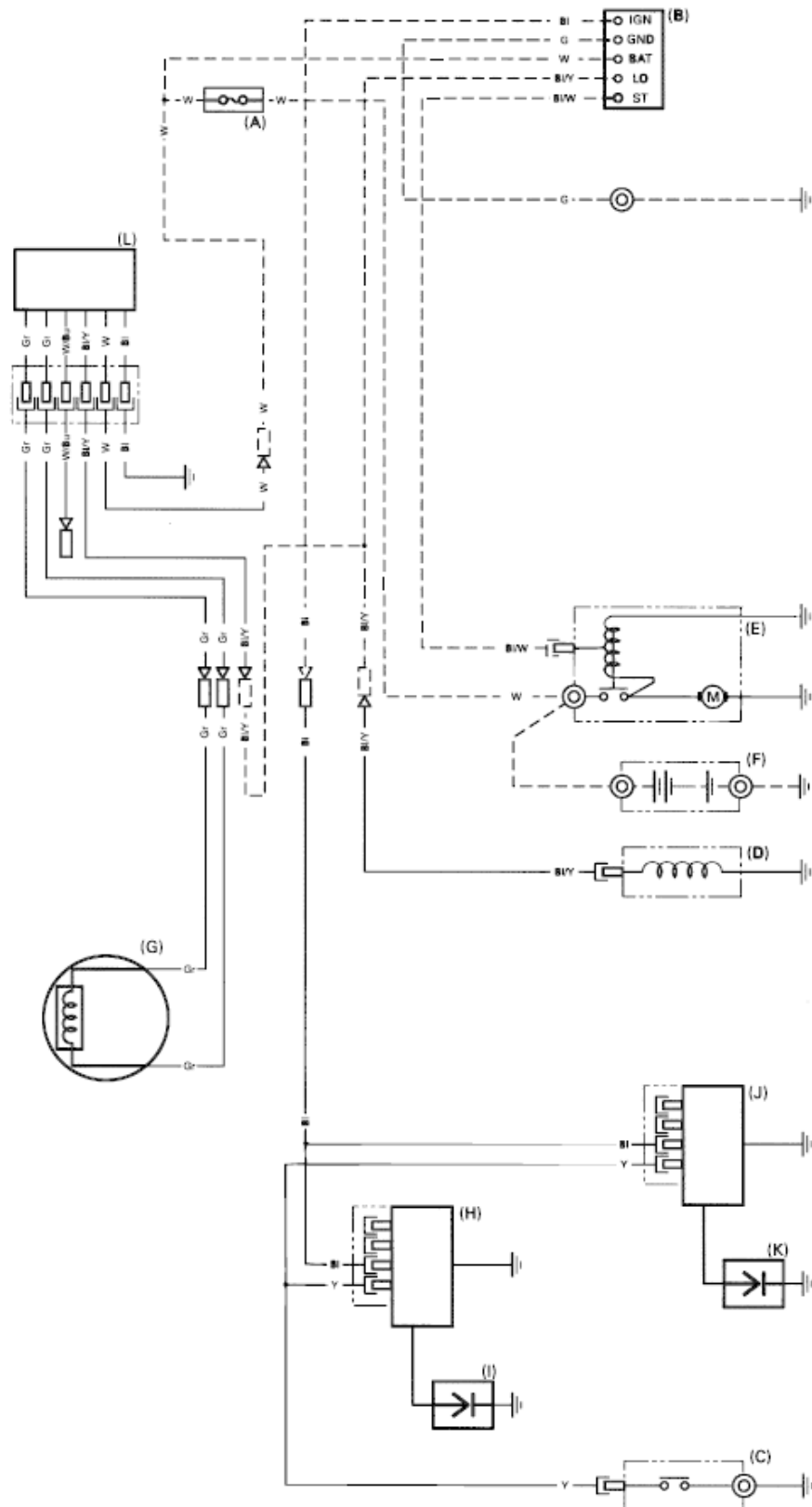
Engine Specifications

Honda Engine Information

- ModelGX-690 UTDW
- Rated Power hp [kW] @ 3,600 RPM22.3 [16.6]
- Displacement in³ [cm³]42 [688]
- Dimensions (L x W x H) inch [mm]15.9x16.1x17.2 [405x410x438]
- Fuel (Type)Regular unleaded gasoline
- Weight (Dry) lb [kg]98 [44.4]



Engine Wiring



Sound and Vibration Testing



Sound Pressure Level Information:

Sound pressure is “A” weighted . Measured at the operators ear position while the ride-on trowel is operating at full throttle on concrete in a manner most often experienced in “normal ” circumstances. Sound pressure may vary depending upon the condition of the concrete. Hearing protection is always recommended.



Vibration Level Information:

The vibration level indicated is the maximum RMS (Root Mean Square) velocity value obtained at the handle grip while operating the ride-on trowel on curing concrete in a manner most often experienced in “normal ” circumstances. Values were obtained from all three axes of motion. The values shown represent the maximum RMS value from these measurements.

Summary Data Of Sound And Vibration Testing for CE Marking

Test Machine	Engine Type	Distant Sound Press	Operator Ear SPL	Sound Power Level	Seat Vibration Overall	Foot Vibration Overall	Hand Vibration Maximum
MP245	Honda	dB (A) 55	dB (A) 86.9	dB (A) 86.8	m/sec ² 2.76	m/sec ² 5.73	m/sec ² 3.00
This information was acquired from sound and vibration analysis tests conducted at Allen Engineering Corporation test facilities.							

Declaration of Conformity



EC Declaration of Conformity

with the

European Machinery Directive 2006/42/EC

We hereby declare that the machinery stipulated below complies with all the relevant provisions of the EC Machinery Directive and the UK National Laws and Regulations adopting this Directive.

Modifications to the machine without prior approval from the undersigned will render this declaration null and void.

Manufacturer: Allen Engineering Corporation
819 South 5th St., Paragould, AR 72450 USA

Authorised Representative in EU: Mr. Thomas Voeler, *ab lin-pro*
Femvågsskälet 3, 421 50 Västra Frölunda. Sweden

Equipment: MP245 Riding Trowel

Description: Ride-on, IC engine powered, concrete smoothing machine.

Notified Body: Not required.

Harmonized Standards Applied: EN12649

Person empowered to draw up the declaration: Jay Allen **Signature:**

Position: President

Place of issue: 819 South 5th St., Paragould, AR 72450 USA

Date: 10/26/2017

State Regulations Proposition 65 Warning



WARNING



CALIFORNIA — Proposition 65 Warning

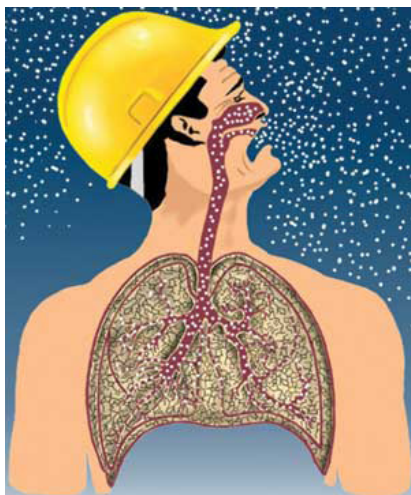
Engine exhaust and some of its constituents, and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks.
- Cement and other masonry products.
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: **ALWAYS** work in a well ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

Federal Regulations Respiratory Hazards

SECTION 1 SAFETY



WARNING

RESPIRATORY HAZARDS

Grinding/cutting/drilling of masonry, concrete, metal and other materials can generate dust, mists and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproductive harm. If you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturers or suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the materials being used.

WARNING

SILICOSIS WARNING

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respiratory diseases, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

SECTION 1 SAFETY

Safety Information

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.

SAFETY NOTES

The four safety notes shown below will inform you about potential hazards that could injure you or others. The safety notes specifically address the level of exposure to the operator and are preceded by one of four words: DANGER, WARNING, CAUTION or NOTICE.



Indicates a hazardous situation which, if not avoided, **will** result in death or serious injury.



Indicates a hazardous situation which, if not avoided, **could** result in death or serious injury.






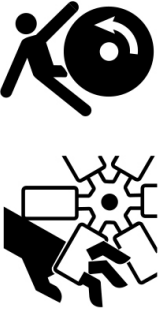


Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Addresses practices not related to personal injury.



Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety notes.

Symbol	Safety Hazard
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazards
	Rotating parts/crush hazards
	Pressurized fluid hazards
	Hydraulic fluid hazards

SECTION 1 SAFETY

General Safety

❗ **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



❗ **ALWAYS** avoid wearing jewelry or loose fitting clothes that may snag on the controls or moving parts as this can cause serious injury.

❗ **NEVER** operate this equipment when not feeling well due to fatigue, illness or when under medication.



❗ **NEVER** operate this equipment under the influence of drugs or alcohol.



❗ **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

❗ No one other than the operator is to be in the working area when the equipment is in operation.

❗ **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

❗ This equipment should only be operated by trained and qualified personnel 18 years of age and older.

❗ Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

❗ AEC does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.

❗ **NEVER** use accessories or attachments that are not recommended by AEC for this equipment. Damage to the equipment and/or injury to user may result.

❗ **ALWAYS** know the location of the nearest fire extinguisher.

❗ **ALWAYS** know the location of the nearest first aid kit.



⚠ **ALWAYS** know the location of the nearest phone or keep a phone on the job site. Also, know the phone numbers of the nearest ambulance, doctor and fire department. This information will be invaluable in the case of an emergency.



⚠ **NEVER** use equipment in areas that contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled.

⚠ The engine of this equipment requires an adequate free flow of cooling air. never operate this equipment in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause injury to people and property and serious damage to the equipment or engine.

⚠ **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe bodily harm or even death.



⚠ **NEVER** use your hand to find hydraulic leaks. Use a piece of wood or cardboard. Hydraulic fluid injected into the skin must be treated by a knowledgeable physician immediately or severe injury or death can occur.



⚠ **ALWAYS** keep clear of rotating or moving parts while operating the riding trowel.



⚠ **NEVER** disconnect any emergency or safety devices. These devices are intended for operator protection. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.



⚠ **NEVER** allow children or riders on the riding trowel during operation.

⚠ **NEVER** lubricate components or attempt service on a running machine.

SECTION 1 SAFETY

General Safety (cont'd)

NOTICE

ⓘ **ALWAYS** keep the machine in proper running condition.

ⓘ Fix damage to machine and replace any broken parts immediately.

ⓘ **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.

WARNING

ⓘ **DO NOT** place hands or fingers inside engine compartment when engine is running.

ⓘ **NEVER** operate the engine with heat shields or guards removed.

ⓘ Keep fingers, hands hair and clothing away from all moving parts to prevent injury.



ⓘ **DO NOT** remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the oil tank and severely scald any persons in the general area of the screed.

CAUTION

ⓘ **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing equipment.



NOTICE

ⓘ **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.

ⓘ **NEVER** tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result if operating in speed ranges above the maximum allowable.





⚠ **DO NOT** start the engine near spilled fuel or combustible fluids. Fuel is extremely flammable and its vapors can cause an explosion if ignited.

⚠ **ALWAYS** refuel in a well-ventilated area, away from sparks and open flames.

⚠ **ALWAYS** use extreme caution when working with flammable liquids.

⚠ **DO NOT** fill the fuel tank while the engine is running or hot.

⚠ **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system.

⚠ Store fuel in appropriate containers, in well-ventilated areas and away from sparks and flames.

⚠ **NEVER** use fuel as a cleaning agent.

⚠ **DO NOT** smoke around or near the equipment. Fire or explosion could result from fuel vapors or if fuel is spilled on a hot engine.



⚠ **DO NOT** drop the battery. There is a possibility that the battery will explode.

⚠ **DO NOT** expose the battery to open flames, sparks, cigarettes, etc. The battery contains combustible gases and liquids. If these gases and liquids come into contact with a flame or spark, an explosion could occur.



⚠ **ALWAYS** wear safety glasses when handling the battery to avoid eye irritation. The battery contains acids that can cause injury to the eyes and skin.



⚠ Use well-insulated gloves when picking up the battery.

⚠ **ALWAYS** keep the battery charged. If the battery is not charged, combustible gas will build up.

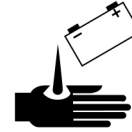
⚠ **DO NOT** charge battery if frozen. Battery can explode. When frozen, warm the battery to at least 61°F (16°C).

SECTION 1 SAFETY

General Safety (cont'd)

⚠ **ALWAYS** recharge the battery in a well-ventilated environment to avoid the risk of a dangerous concentration of combustible gases.

⚠ If the battery liquid (dilute sulfuric acid) comes into contact with clothing or skin, rinse skin or clothing immediately with plenty of water.



⚠ If the battery liquid (dilute sulfuric acid) comes into contact with eyes, rinse eyes immediately with plenty of water and contact the nearest doctor or hospital to seek medical attention.



⚠ **ALWAYS** disconnect the negative battery terminal before performing service on the equipment.

⚠ **ALWAYS** keep battery cables in good working condition. Repair or replace all worn cables.

⚠ Side slope operation is not permitted.




⚠ Walk around the riding trowel before starting it to see if any items are worn, damaged, leaking, etc. that may make the riding trowel dangerous to operate.

⚠ Stop and inspect the equipment if you strike an object. If necessary, make repairs before restarting.

⚠ **ALWAYS** check that all controls are functioning properly immediately after start-up!

⚠ **DO NOT** operate machine unless all controls operate correctly.



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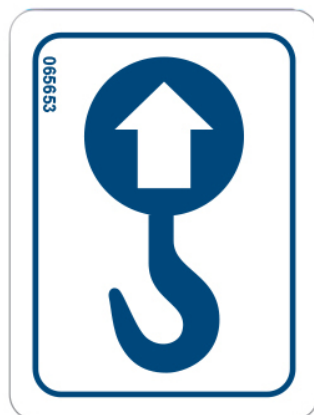
800.643.0095 (USA ONLY) / 870.236.7751

MADE IN U.S.A.

Allen® Products are covered under one or more of the following patent numbers:

U.S. Patents: 5,934,823; 5,988,938; 5,967,696; 6,053, 660; 6,089,787; 6,106,193; 6,048,130; 6,019,545; 6,089,786; 6,582,153; 6,857,815B2; 6,955,404; 7,108,449B1; 7,114,876B1; 7,316,523B1; 7,690,864; 8,360,680; 9,068,300; 9,068,301 With other Patents Pending.

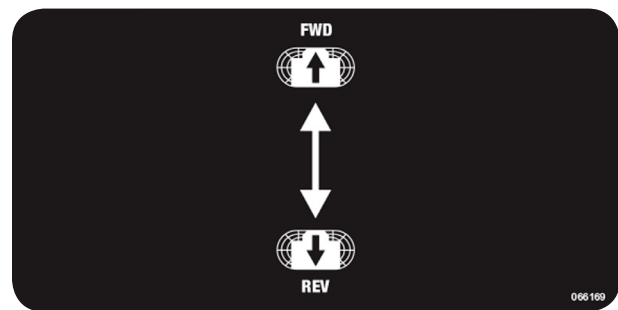
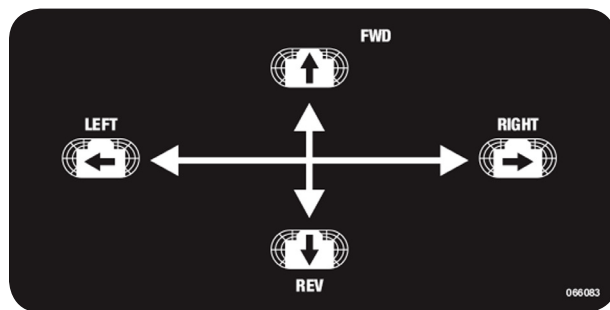
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SECTION 1 SAFETY

Safety Labels and Decals (cont'd)





OUR MISSION STATEMENT

Our Mission is to provide superior quality products (manufactured in a safe and efficient environment by highly trained and dedicated personnel), on-time deliveries, with reactive and knowledgeable customer service.

OUR QUALITY POLICY

The Allen Engineering Team is fully committed to exceeding customer expectations for the quality of the products and services provided through the continuous improvement process of reducing waste, defects, and variability in everything we do.

OUR VISION

Our Vision is to be a world-class manufacturer of concrete placing and finishing equipment.

SECTION 1 SAFETY

Transportation Safety

CAUTION

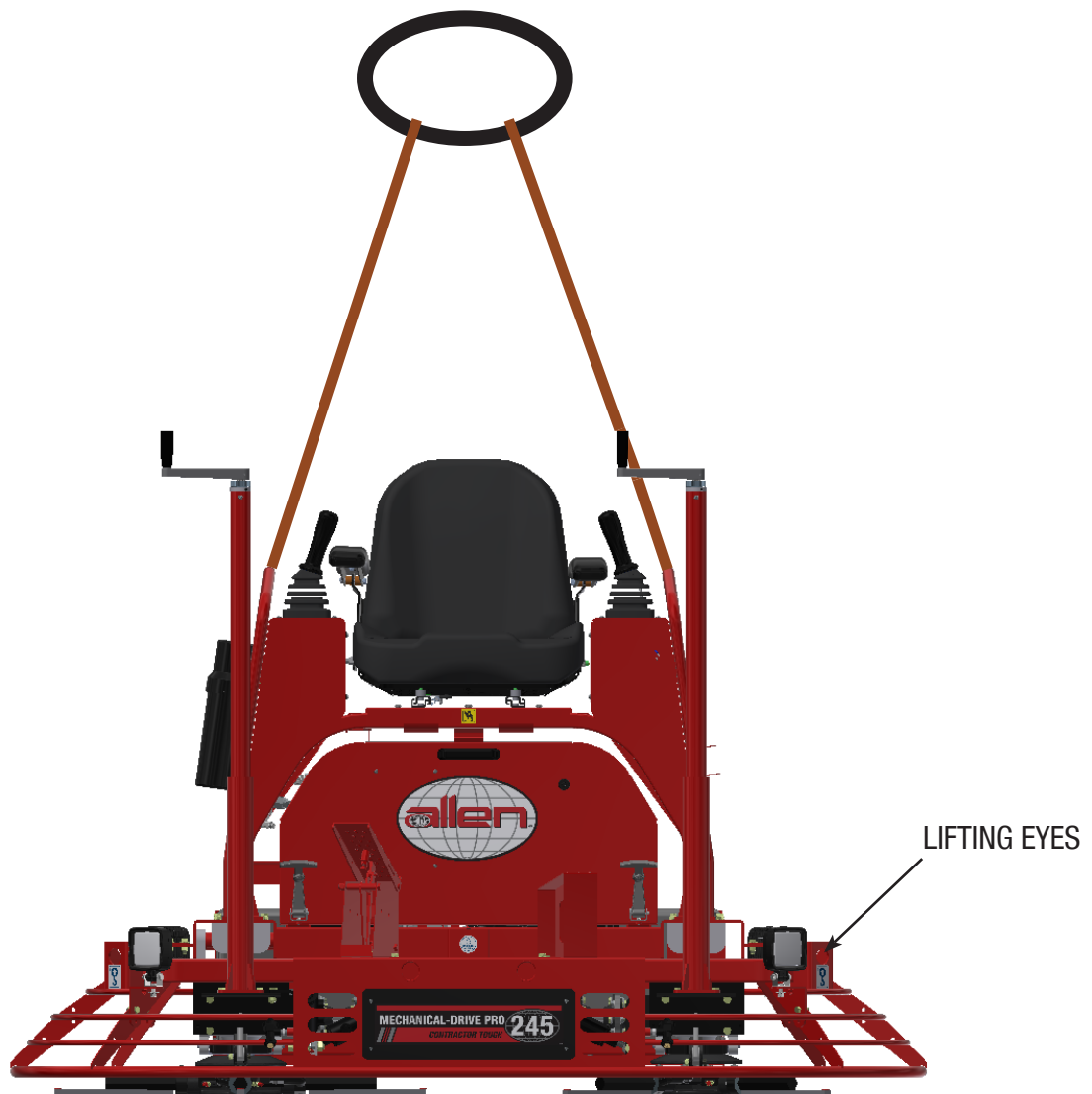
ⓘ When lifting the riding trowel, all personnel must be clear of the machine.

ⓘ **DO NOT** stand near or under the machine while it is being lifted.

Lifting instructions using a hoist:

ⓘ Place slings, chains or hooks through each lifting eyes on the machine. Use a sling or chains with a minimum length of 2 meters (5 feet) on each leg, connected to a central lifting device. Ensure that all lifting devices have sufficient weight-bearing capacity. Also, there is an alternative method of lifting the MP245, utilizing the seat frame lifting bars as shown below.

ⓘ **ALWAYS** shutdown engine before transporting.



☐ Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer “gross vehicle weight rating.”

☐ **ALWAYS** inspect the hitch and coupling for wear. Never tow a trailer with defective hitches, couplings, chains, etc.

☐ Check the tire air pressure on both towing vehicle and trailer. Trailer tires should be inflated to 50 psi cold. Also check the tire tread wear on both vehicles.

☐ **ALWAYS** make sure the trailer is equipped with a safety chain.

☐ **ALWAYS** properly attach trailer’s safety chains to towing vehicle.

☐ **ALWAYS** make sure the vehicle and trailer directional, backup, brake and trailer lights are connected and working properly.

☐ DOT Requirements include the following:

- Connect and test electric brake operation.
- Secure portable power cables in cable tray with tie wraps.

☐ The maximum speed for highway towing is 55 MPH unless posted otherwise. Recommended off-road towing is not to exceed 15 MPH or less depending on type of terrain.

☐ Avoid sudden stops and starts. This can cause skidding, or jack-knifing. Smooth, gradual starts and stops will improve towing.

☐ Avoid sharp turns to prevent rolling.

☐ Trailer should be adjusted to a level position at all times when towing.

☐ Raise and lock trailer wheel stand in up position when towing.

☐ Place chock blocks underneath wheel to prevent rolling while parked.

☐ Place support blocks underneath the trailer’s bumper to prevent tipping while parked.

☐ Use the trailer’s swivel jack to adjust the trailer height to a level position while parked.

SECTION 1 SAFETY

Pan Installation Instructions

This section details the proper technique to utilize the lifting bridle system and the dolly jack system in a safe manner to install pans. (NOTE: Images are for illustration purposes only)



Use a lifting sling (bridle) with a capacity of at least a 2:1 weight ratio for the equipment being hoisted.

STEP 1: Attach the lifting bridle to the machine at all four lifting points.

STEP 2: Slowly lift machine in a safe manner to a height that is required to safely install the pans. This is typically 6-8" above floor level.



STEP 3: Carefully slide the pans under the machine making sure that you are aware of the corners on the blades that are sharp.

STEP 4: Align the pans so that the clips will not be crushed when the machine is lowered back down.

STEP 5: Slowly lower the machine down onto the pans while maintaining a visual so the blades are going into the proper gaps. (Typically the pans can only be installed one way)



STEP 6: Remove lifting bridle from the machine.

STEP 7: Start machine and slowly increase the throttle until the blades slowly begin turning and engaging the pans. The machine is now ready to finish concrete utilizing the pans.



Pan Installation Instructions (cont'd)

SECTION 1 SAFETY



Use the appropriate set of jacks that are designed for the machine you are lifting.

STEP 1: Attach the front and rear dolly jacks into the machine at the receiving tube locations.

STEP 2: Slowly lift machine in a safe manner to a height that is required to safely install the pans. This is typically 6-8" above floor level.



STEP 3: Carefully slide the pans under the machine making sure that you are aware of the corners on the blades that are sharp. (B)

STEP 4: Align the pans so that the clips will not be crushed when the machine is lowered back down.

STEP 5: Slowly lower the machine down onto the pans while maintaining a visual so the blades are going into the proper gaps. (Typically the pans can only be intalled one way)



STEP 6: Remove lifting bridle from the machine.

STEP 7: Start machine and slowly increase the throttle until the blades slowly begin turning and engaging the pans. The machine is now ready to finish concrete utilizing the pans.

NOTE: Utilizing the lifting sling(bridle) and the dolly jacks are intended only for site transportation and the installation of pans and blades. DO NOT use them for regular maintenance without the additional use of jack stands to insure stability of the machine.

Before operation each day ensure the following:

- All guards, side screens and panels are in place.
- All safety and information signs are in place and legible.
- Engine and hydraulic oil levels are correct.
- Check battery level
- Check for hydraulic leaks.
- Check all operating controls for proper operation and adjustment.
- Check speed control operation before and after starting engine for proper operation.
- Gearbox oil level. Add oil as required.
- The steering, left and right.

Note: If there is any indication that faulty equipment exists, shutdown safely, inform the proper authority and **DO NOT** operate the riding trowel until the problem has been fixed.

- Remove loose objects that could interfere with operation.

WARNING!

Oil **MUST** be present and flowing through the Auxiliary Pump when running the machine. The warranty will be voided if no oil is present. When replacing the pump, it **MUST** be primed before starting machine.

Starting Procedures

Before starting riding trowel, refer to figures below for location and identification of operational and visual controls pertaining to the operation of the riding trowel.

1. Sit down correctly on the riding trowel seat. DO NOT attempt to start the riding trowel without an operator in the seat.
2. If engine is cold, pull out the choke lever. Press down on throttle pedal (located by the operator's right foot) one to two times.

To much throttle during start-up will flood the engine.

3. Turn ignition switch key to the start-position, immediately release key when engine starts. If after two or three attempts the engine has not started push in choke. Attempt to start trowel again. Allow engine to warm up for 5 minutes before operating riding trowel.



NOTE

Operating the starter for more than 5 seconds can damage the starter or engine. If engine fails to start release the switch and wait 15 seconds before operating starter again.

SECTION 2 OPERATIONS

Operating Instructions

To utilize your Allen Engineering MP245 Rider to its fullest capacity the machine should be driven in the direction the operator is facing. This will finish the widest possible area while giving the operator an excellent view of the slab surface about to be troweled. When the machine reaches the end of the slab make a 180 degree turn and repeat the straight line of direction to the other end of the slab. To familiarize a new operator with the riding trowel the following steps should be taken.

Location of all Operating Controls

[A]	Right Pitch Control
[B]	Joystick (Forward & Reverse)
[C]	Joystick (Left & Right, Forward & Reverse)
[D]	Left Pitch Control
[E]	Right Foot Pedal
[F]	Seat Adjustment
[G]	Cup Holder



With the operator in the seat, show them the functions of the joysticks [B] and [C] and how to start the machine.

A hard level concrete slab with water on the surface is an ideal place for an operator to practice with the machine. For practice pitch the blades up approximately 1/4 inch on the trailing edge. Start by making the machine hover in one spot and then practice driving the machine in a straight line and making 180 degree turns. Best control is achieved at full engine RPM.



Engage the throttle. This allows the engine to warm up quicker and also engages the torque converter. The machine's rotors will begin turning.



Excessive pressure on the joysticks. Excessive pressure does not increase the reaction and can damage steering controls.

Stopping The Riding Trowel

To stop the trowel's movement, let go of the joysticks [B] and [C]. They will return to their neutral position. Also release pressure on the right foot pedal [E].



Emergency stop switch mechanism installed in the seat. If in need of an emergency stop, simply lifting the foot off the seat will stop the rotors from turning immediately.

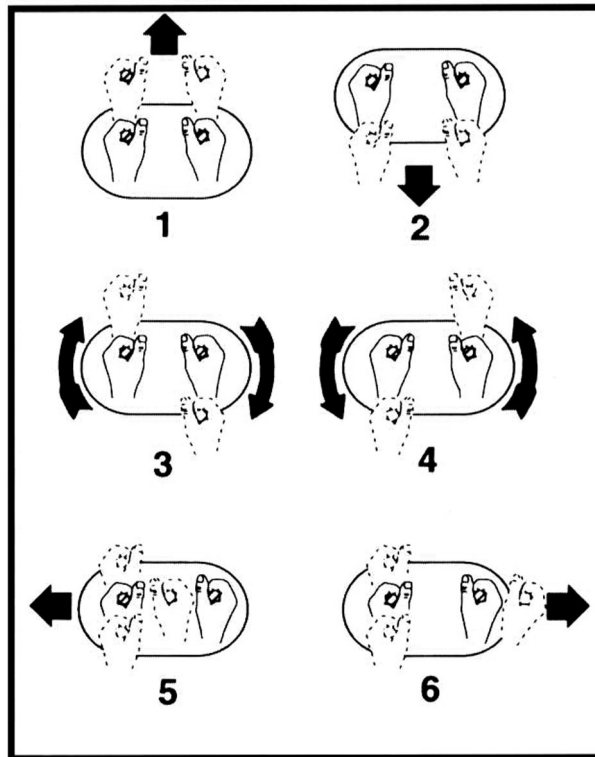
SECTION 2 OPERATIONS

Operating Instructions (cont'd)

Steering The Riding Trowel

A slight “feathering motion” forward and backward with the left hand joystick is required to move the machine in a straight path to the left or right while operating the right hand joystick.

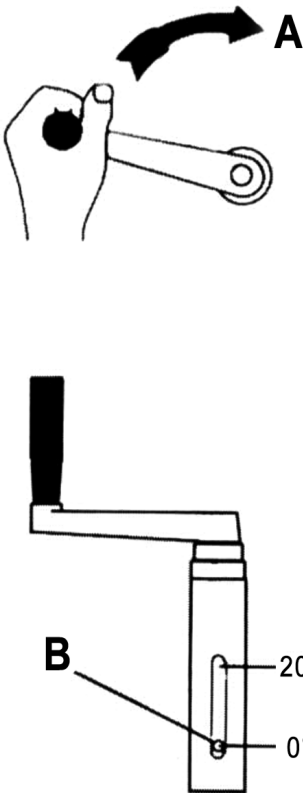


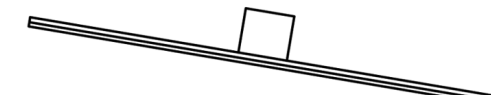
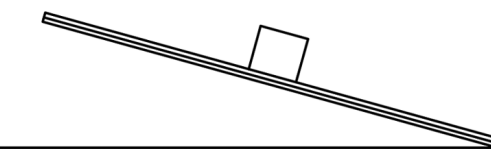
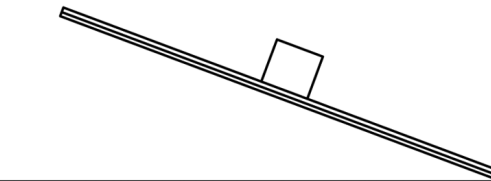
Position	Action
1	Forward
2	Reverse
3	Rotate clockwise
4	Rotate counter clockwise
5	Left sideways
6	Right sideways



Pitch Adjustment

Different pitch angles are needed as you work the different stages of the concrete. Refer to figure below. When changing or setting pitch (angle of trowel blades), slow the machine down, set the desired degree of pitch on the left side of the machine and then adjust the right side to match.

To increase the pitch, turn the pitch control clockwise "a" use the pitch indicator "b" to adjust pitch equally on both right and left trowel blades.

	Working Conditions of Concrete	Suggested Working Pitch
	Stage 1: Wet surface working stage	0° 
	Stage 2: Wet plastic working stage	5° 
	Stage 3: Plastic working stage	10° 
	Stage 4: Semi-hard working stage	15° 
	Stage 5: Hard finishing stage (Burnishing)	20° 

SECTION 3 SERVICE

Maintenance described in this section represents minimum requirements for continuous satisfactory operation of the machine.

Because improperly maintained machines are hazardous, it is extremely important that only qualified mechanics perform maintenance work.

It is imperative that only genuine AEC parts are used if replacement is needed as substituted parts in critical areas may place the operator at risk.

It is recommended that a regular maintenance schedule be followed for mechanical adjustments as well as for lubrication.

Use a preventative maintenance program to catch and correct many serious problems before they occur. The preventative maintenance schedule contained herein gives a daily, weekly, monthly, semi-annually, annually, and break-in 100 hours minimum requirement to keep your riding trowel running for years. The lubrication chart contained herein is one part of riding trowel preventative maintenance.

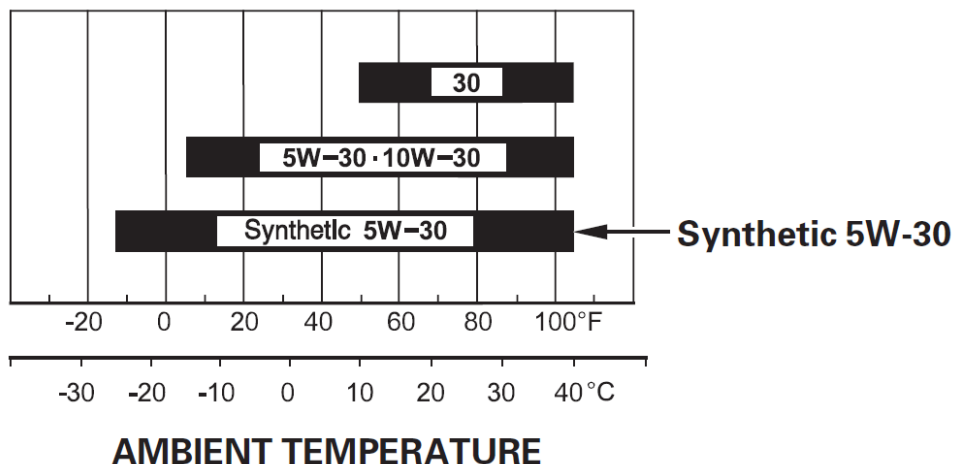
Because regular maintenance cannot be controlled by the manufacturer or by the distributor, it must ultimately be the responsibility of the owner.

Your AEC dealer stands ready to assist in the event of operational difficulties. However, most adjustments and/or repair can be readily performed by the user.

The instructions provided in this section will facilitate the maintenance of the AEC equipment to operate at peak efficiency.

Recommended Oil

Use 4-stroke motor oil that meets or exceeds the requirements for API service category SJ or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SJ or later (or equivalent).



A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE.

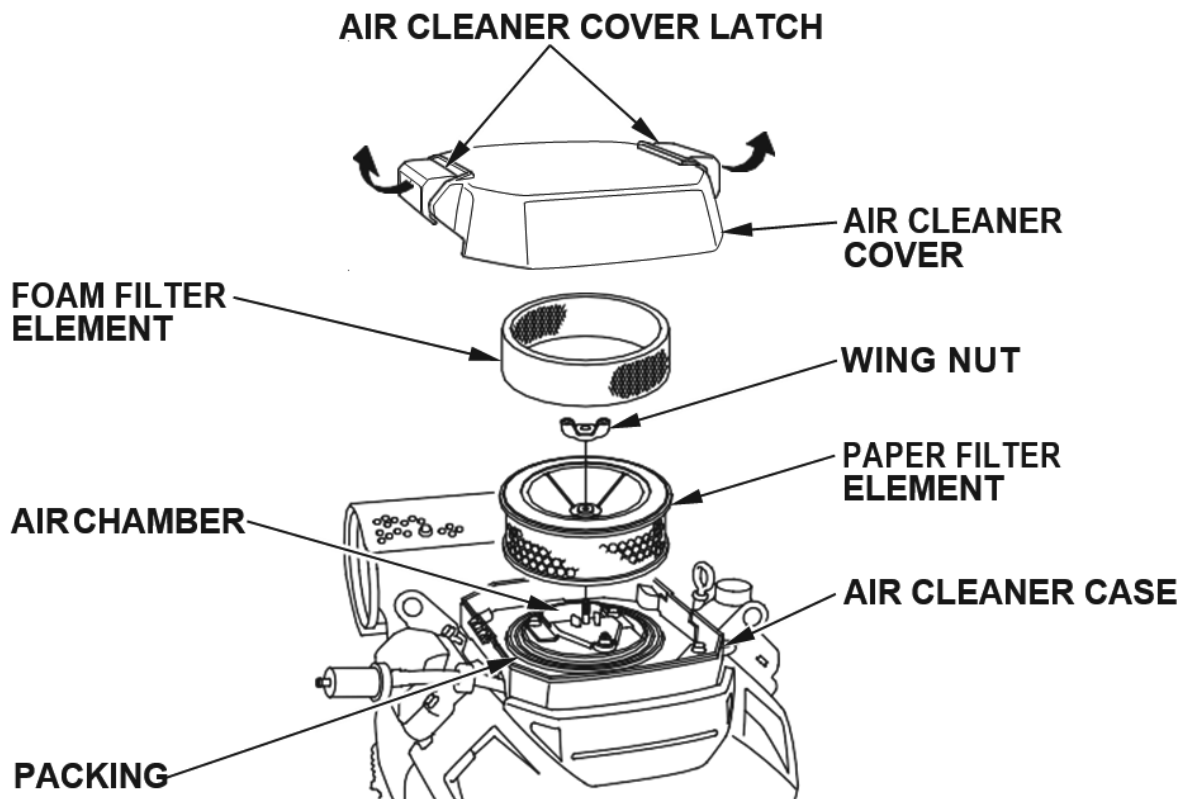
Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty.

Inspection

Remove the air cleaner cover and inspect the filter elements. Clean or replace dirty filter elements. Always replace damaged filter elements.

Cleaning

1. Pull the air cleaner cover latch to the unlocked position, and remove the cover.
2. Remove the wing nut from the paper filter element.
3. Remove the paper filter element and foam filter element from the air cleaner case.
4. Remove the foam filter element from the paper filter element.
5. Inspect both filter elements, and replace them if they are damaged. Always replace the paper filter element at the scheduled interval.



SECTION 3 SERVICE

Maintenance Schedule

Maintenance Schedule					
Item	Daily	Weekly	Monthly	Annually	100 Hours
Check external hardware	✓				
Check hydraulic oil level	✓				
Check hydraulic fittings and hoses	✓				
Apply grease to thrust bearings	✓				
Check all operational controls	✓				
Tighten all bolts and nuts.			✓		
Grease steering assembly heim joints			✓		
Tighten any loose bolts, nuts, etc					✓
Inspect visually for loose or missing parts	✓				
Wash wet concrete of machine	✓				
Clean fuel sediment bowl		✓			
Inspect battery (fill with water if needed)		✓			
Change gearbox oil				✓	
Inspect drive belts			✓		
Check all adjustments					✓
Change the engine oil				✓	
Check air cleaner element		✓			
Thoroughly clean machine				✓	
Change the hydraulic oil					✓



AIR CLEANER
PART #: 064832

KIT, FILTER F/ GX690 HONDA
PART #: 061819



ENGINE OIL FILTER
PART #: 064831



ENGINE FUEL FILTER
PART #: 064833



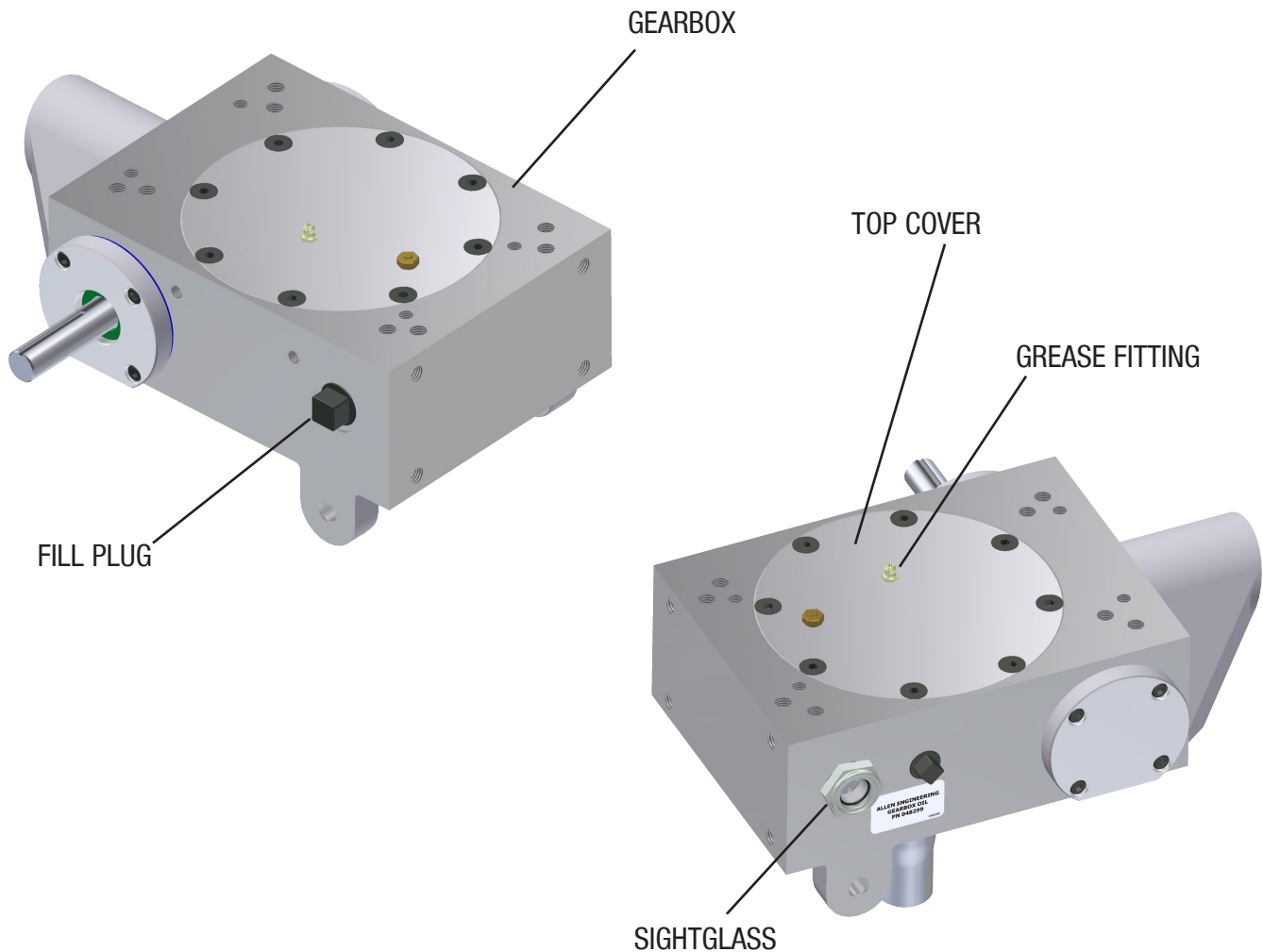
HYDRAULIC OIL FILTER
PART #: 046730

Trowel Gearbox Maintenance

Check Oil levels in the gearbox daily (every 8 hours) Add oil if oil level is below the check sight glass.

1) To add oil tilt gearbox to the side and remove the fill plug. Add oil through hole opening. Replace fill plug after proper level has been achieved. Fill so that there is oil 1/2 way in the sight glass. Use Allen Oil (PN: 048299) only.

2) Each Gearbox has a grease fitting on top cover that must be greased (2 SHOTS ONLY) every 300 operating hours. Use only Mobilith SHC 220 Extended pressure grease.



Lift Lever Adjustment Procedure

Damage to and/or replacement of a trowel arm can change the adjustment of the lift lever. This can unbalance the trowel arms and cause the riding trowel to wobble during operation. To operate smoothly the lift lever on all trowel arms must be adjusted the same to ensure that the riding trowel is balanced correctly.

Adjusting the trowel arms is accomplished by using the optional trowel arm alignment jig AEC PN 016863. The service manual that is included with the alignment jig describes in detail the steps to preform this procedure and to check the flatness and straightness of the trowel arms.

The steps below describe the general procedure to remove the trowel arms to be aligned.

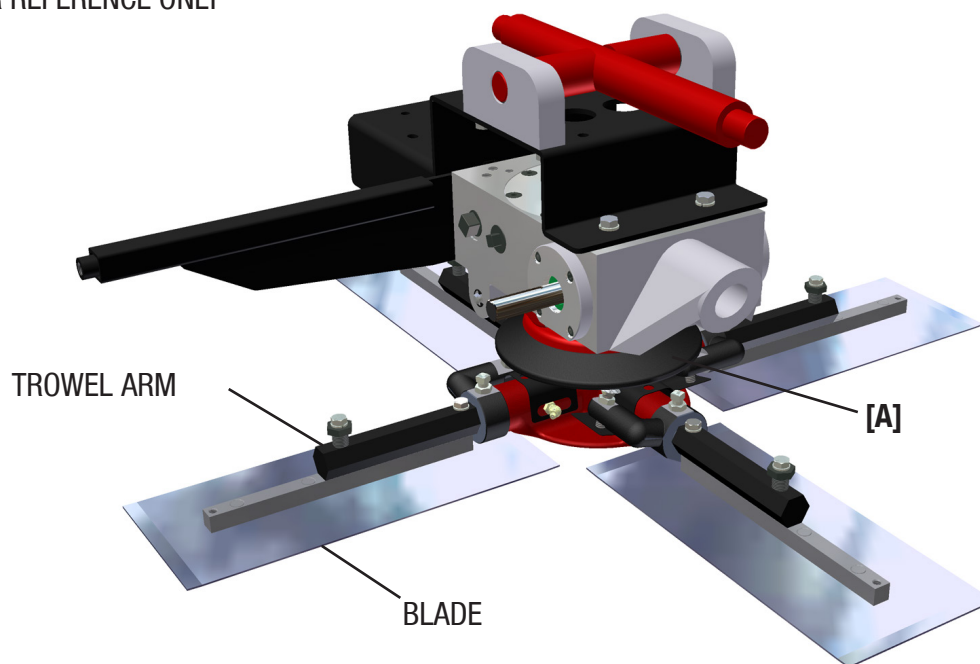


NOTE

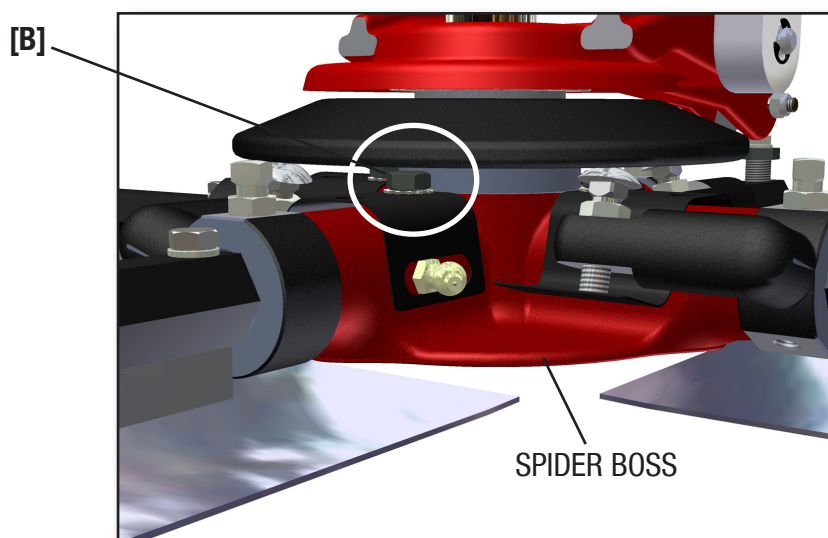
Make sure that there is no pitch in the blades before attempting to remove a trowel arm.

- 1) Block up pressure plate **[A]** using a wooden block.
- 2) Remove stabilizer ring from spider assembly (only on available models).
- 3) Remove blades from trowel arms.
- 4) Loosen hex head cap screw **[B]** and remove it and the external star washer from the spider boss.
- 5) Remove trowel arms from spider boss with lift levers in place.
- 6) Clean flats on trowel arm before placing it in the trowel arm jig (PN 016863).
- 7) Preform the alignment procedures as outlined in the alignment jig service manual (PN 047427).
- 8) Re-attach trowel arm to spider boss and blades to trowel arms.
- 9) Tighten down hex head cap screw to secure trowel arm in place.
- 10) Reattach stabilizer ring (only on available models).

PICTURE FOR REFERENCE ONLY



PRESSURE PLATE LOCATION



FASTENER HARDWARE REMOVAL

Occasionally it may be necessary to jump start a weak battery. If jump starting is necessary the following procedure is recommended to prevent starter damage, battery damage, and personal injury.

WARNING

*Jump starting a battery incorrectly can cause the battery to explode resulting in severe personal injury or death.
Do not smoke or allow any ignition sources near the battery and do not start a frozen battery.*

WARNING

*Electrical arcing can cause severe personal injury.
Do not allow positive and negative cable ends to touch.*

- 1) Use a battery of the same voltage (12V) as is used with your engine.
- 2) Attach one end of the positive booster cable (red) to the positive (+) terminal of the booster battery. Attach the other end to the terminal of your engine battery.
- 3) Attach one end of the negative booster cable (black) to the negative (-) terminal on the booster. Attach the other end of the negative cable to your engine battery.
- 4) Jump starting in any other manner may result in damage to the battery or the electrical system.

CAUTION

*Over cranking the engine can cause starter damage.
Allow 5 minutes for starter to cool if engaged for more than 15 seconds.*

CAUTION

When using lights or high amperage draw accessories, idle the engine for a period of 20 minutes to bring the battery to charge state.

Transporting Trowel Procedures

Optional dolly jacks are available for short moves or to aid in servicing the trowel.

Install dolly jacks as follows:

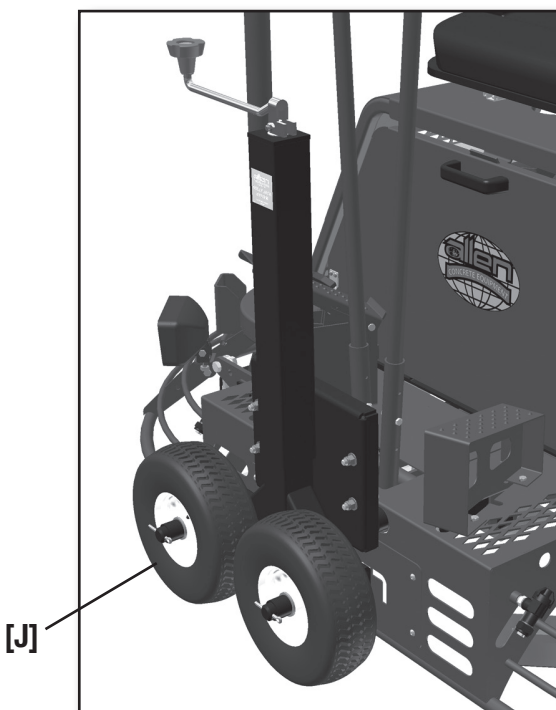
- 1) Inspect dolly jack for serviceability and damage.
- 2) Place riding trowel on firm level ground.



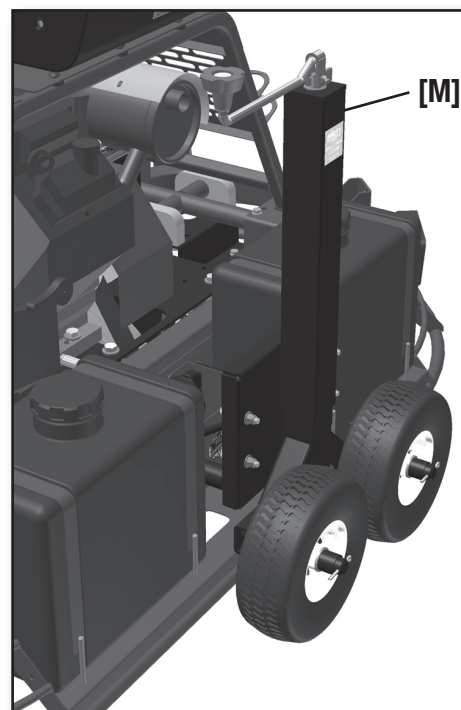
- 3) Tie steering levers **[I]** (if applicable) to frame to prevent them from tipping forward when trowel is being lifted. AEC assumes no liability if injury occurs and this step is eliminated during any trowel lifting procedures.
- 4) Insert the front dolly jack **[J]** fully into the holes in the mainframe of the riding trowel. The front dolly jacks are equipped with short lifting tubes while the rear dolly jacks have long lifting tubes.
- 5) Insert the rear dolly jack **[M]** with the long lifting tubes into the holes provided in the rear of the mainframe. The holes in the mainframe are located directly opposite the front holes.
- 6) Turn jack handles clockwise to lift trowels and counter-clockwise to lower trowel.



PICTURE FOR REFERENCE ONLY



FRONT DOLLY JACK
LOCATION



REAR DOLLY JACK
LOCATION

SECTION 3 SERVICE

Troubleshooting

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Engine does not start, or is difficult to start	Battery is discharged	- Add battery fluid - Charge the battery - Replace the battery	
		Battery cable is disconnected	- Connect battery cable	
		Blown fuse	- Replace fuse	
		Bad connection or breakage in the wiring	- Contact your AEC dealer	
		Out of fuel	- Fill fuel	
		Air is in fuel	- Contact your AEC dealer	
		Engine fouled	- Wait a while and try starting again	
		Insufficient or wrong oil	- Fill or change oil	
		Dirty or damaged spark plug	- Clean or replace spark plug	
		Contamination in fuel system	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Engine stalls	Out of fuel	- Fill fuel	
		Cold engine	- Warm up the engine	
		Other (other than above)	- Contact your AEC dealer	
	Engine stops abruptly	Out of fuel	- Fill fuel	
		Piston seizure due to insufficient or bad oil	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Engine does not stop	Electrical malfunction	- Contact your AEC dealer	
		Other (other than above)	- Contact your AEC dealer	
	Idling is not stable	Insufficient intake air (clogged air cleaner)	- Clean or replace the air cleaner	
		Other (other than above)	- Contact your AEC dealer	
	Poor power or acceleration	Bad fuel	- Change fuel	
		Wrong oil (improper viscosity)	- Change to suitable oil	
		Accelerator (throttle) is not properly adjusted	- Contact your AEC dealer	
		Insufficient intake air (clogged air cleaner)	- Clean or replace the air cleaner	
		Excessive load	- Reduce load	
		Loose drive belt	- Adjust	
		Other (other than above)	- Contact your AEC dealer	
	Irregular noise or vibration from or around the engine		- Contact your AEC dealer	
	Excessive oil consumption		- Contact your AEC dealer	
	Engine overheats	Insufficient amount of engine oil	- Fill oil	
		Cooling fan is clogged or blocked	- Clean	
		Other (other than above)	- Contact your AEC dealer	
	Excessive fuel consumption	Clogged air cleaner	- Clean or replace air cleaner	
		Other (other than above)	- Contact your AEC dealer	

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Black smoke comes out of exhaust	Bad fuel	- Change fuel	
		Clogged air cleaner	- Clean or replace the air cleaner	
		Choke is not fully open	- Open the choke fully	
		Other (other than above)	- Contact your AEC dealer	
	White or blue smoke comes out of exhaust	Engine oil level is too high	- Adjust the oil level	
		Other (other than above)	- Contact your AEC dealer	
Safety Devices	Lamp does not light	Blown bulb	- Replace	
		Blown fuse	- Replace	
		Other (other than above)	- Contact your AEC dealer	
Hydraulic System	Pump does not work	Insufficient or deteriorated hydraulic fluid	- Add or change fluid	
		Other (other than above)	- Contact your AEC dealer	

WARNING!

Oil **MUST** be present and flowing through the Auxiliary Pump when running the machine. The warranty will be voided if no oil is present. When replacing the pump, it **MUST** be primed before starting machine.



SECTION 4 PARTS

Factory Service Information

This section contains the illustrated drawings and parts list for help in identifying and/or ordering replacement parts for your machine. Follow the instructions in the front section of this manual “Ordering Parts” when ordering replacement parts to insure prompt and accurate delivery.

The FRONT and/or REAR orientations are defined from the operator’s view of sitting on machine (SOM).



! NOTE

All set screws have blue (LOC-TITE™) applied at the factory. If set screw is removed or loosened for any reason re-apply blue (LOC-TITE™).

! NOTE

All grease fittings are capped with CAP PLUG GC-5 (AEC PN 015692) to protect the fitting. If cap becomes missing or damaged replace it as soon as possible.



! NOTE

Anti-Seize is applied at the factory to drive line couplings, and moving components. If these parts are disassembled re-apply a light coat of a graphite based anti-seize.



We recommend AEC quality replacement parts, available from the AEC Customer Service Department or your nearest AEC Dealer.

Part numbers are subject to change without notice. Part numbers might be different outside of the United States of America. Use part numbers listed in the applicable parts list table when you place your order. If a part number changes, the AEC Customer Service Department or your nearest AEC dealer will have the latest part number for the replacement part.

Remember when you order replacement parts, you will need your model number and serial number. These are the numbers that you have recorded on *Page 11* of this manual. Please order replacement parts by the appropriate part number, not the key number.

This manual contains an illustrated parts list for help in ordering replacement parts for your machine. Follow the instructions below when ordering parts to insure prompt and accurate delivery:

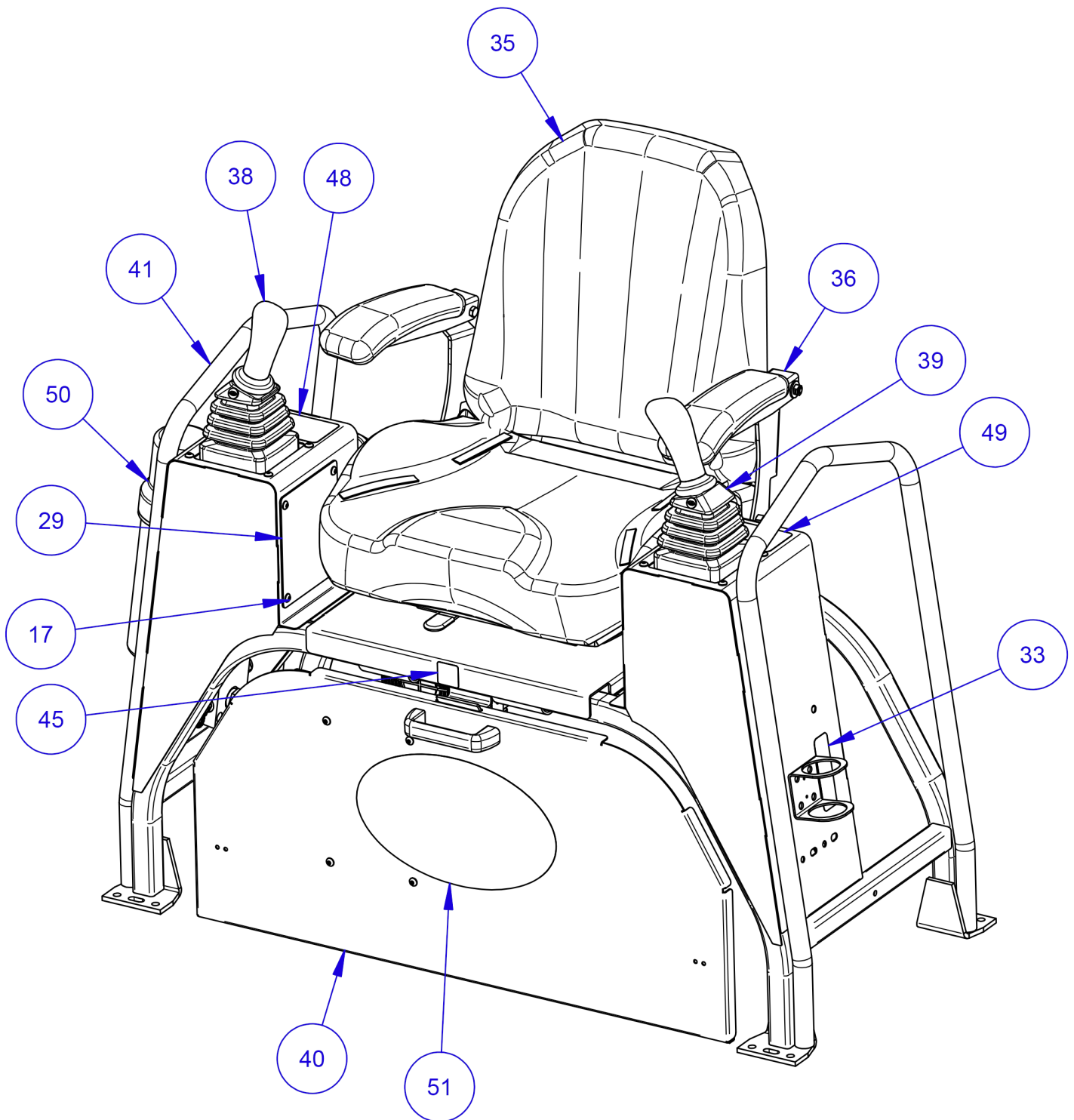
1. All orders for service parts - include the serial number for the machine. Shipment will be delayed if this information is not available.
2. Include correct description and part number from the "PARTS" Section 4.
3. Specify exact shipping instructions, including the preferred routing and complete destination address.
4. DO NOT return parts to AEC without receiving written authorization from AEC. All authorized returns must be shipped pre-paid.
5. When placing an order, please contact the AEC Dealer nearest you.



All information, specifications, and illustrations in this manual are subject to change without notice and are based on the latest information at the time of publication.

SECTION 4 PARTS

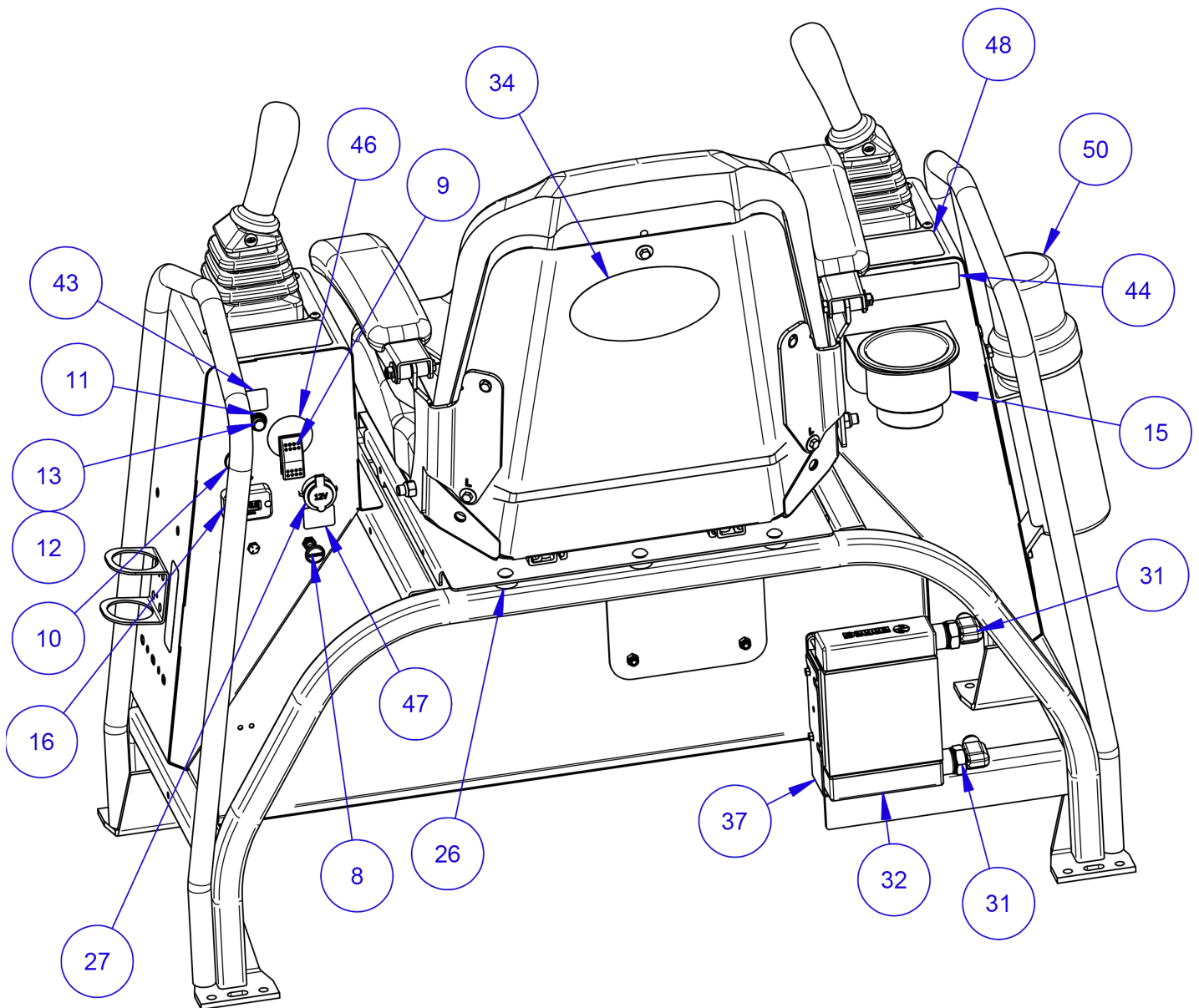
Seat Frame Assembly - Illustration



Parts List located on Pages 58-59

Seat Frame Assembly - Illustration, continued

SECTION 4 PARTS



Parts List located on Pages 58-59

SECTION 4 PARTS

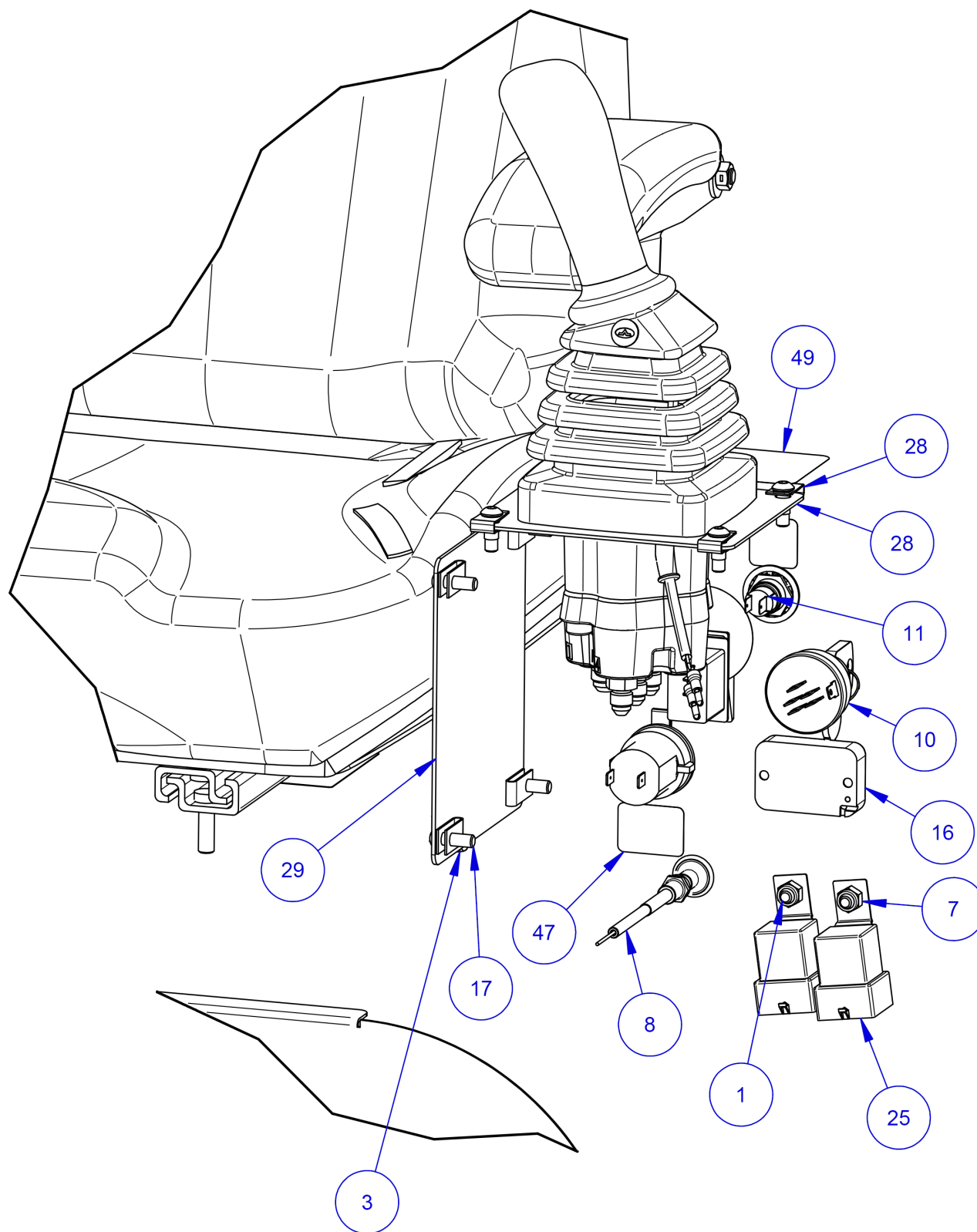
Seat Frame Assembly - Parts List

ITEM	PART NO.	DESCRIPTION	QTY
1	010001	FASTENER, HHCS 1/4-20 X 1/2 GR 5	2
2	010019	FASTENER, HHCS 5/16-18 X 3/4 GR 5	3
3	010068	FASTENER, HHCS 1/2-13 X 1-1/4 GR 8	2
4	010082	FASTENER, FW 5/16	4
5	010109	FASTENER, NUT HEX NYLON 5/16-18	3
7	029671	FASTENER, NUT HEX 1/4-20 NYLOC	2
8	029928	CHOKE CABLE ASSEMBLY	1
9	032125	ROCKER SWITCH	1
10	032148	KIT, KEY IGNITION SWITCH	1
11	034610	SOCKET, T-2 SLIDE BASE LAMP	1
12	034611	LAMP, T-2 SLIDE BASE #5	1
13	034614	LENS, T-2 LAMP RED JEWEL	1
14	039329	FASTENER, CLIP TINNEMAN 1/4-20	8
15	041537	CUP HOLDER	1
16	042036	METER, TACH/HOUR INDUCTIVE	1
17	042343	FASTENER, SFBHCS 1/4"-20 x 3/4	16
18	045915	FITTING, F6400-6-6-0 STR JIC-SAE	2
19	045921	FITTING, F6400-8-8-0 STR JIC-SAE	1
20	045922	FITTING, F6400-4-6-0 STR JIC-SAE	2
21	045928	FITTING, F6400-4-4-0 STR JIC-SAE	8
22	046736	MANIFOLD, HYDR STEERING	1
23	046777	FITTING, F6400-6-4-0 STR JIC-SAE	2
24	046892	FITTING, 6801-6-6-NWO 90° ELB JIC-SAE	1
25	047052	RELAY, 12V 30/50A w/ RES SHROUD	2
26	047665	BUMPER, RUBBER	3
27	049588	RECEPTICAL, FEMALE, 12VDC	1

Seat Frame Assembly - Parts List , continued

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
28	049623	JOYSTICK PLATE ASS'Y	2
29	050049	ACCESS PANEL	2
30	052926	FITTING, HYD SMK20-7/16UNF-VE TEST PORT	1
31	052928	FITTING, HYD 9059-8-8	2
32	052930	COOLER, AIR/OIL	1
33	053447	DECAL, HAND TOOL AREA (SP)	1
34	056340	DECAL ALLEN OVAL 4" X 6.67" WHITE	1
35	061372	SEAT, RIDER	1
36	061373	ARM RESTS FOR SEAT	1
37	064247	BRACE F/ COOLER	2
38	064817	CONTROL VALVE, RH DUAL AXIS	1
39	064818	CONTROL VALVE, LH SINGLE AXIS	1
40	065404	SCREEN ASSEMBLY	1
41	065735	SEAT FRAME WELDMENT F/ MP245	1
42	067934	EPA LABEL, 2018, AEC	1
43	065913	DECAL, GEARBOX OIL	1
44	065915	DECAL, PPE	1
45	065917	DECAL, PINCH POINT	1
46	065918	DECAL, LIGHTS	1
47	065919	DECAL, 12 VOLT DC /5 AMP MAX	1
48	066083	DECAL, 2 DIRECTION	1
49	066169	DECAL, 1 DIRECTION	1
50	066255	MANUAL TUBE	1
51	067548	DECAL, MP245 ALLEN OVAL (12")	1



PARTS OMITTED FOR CLARITY

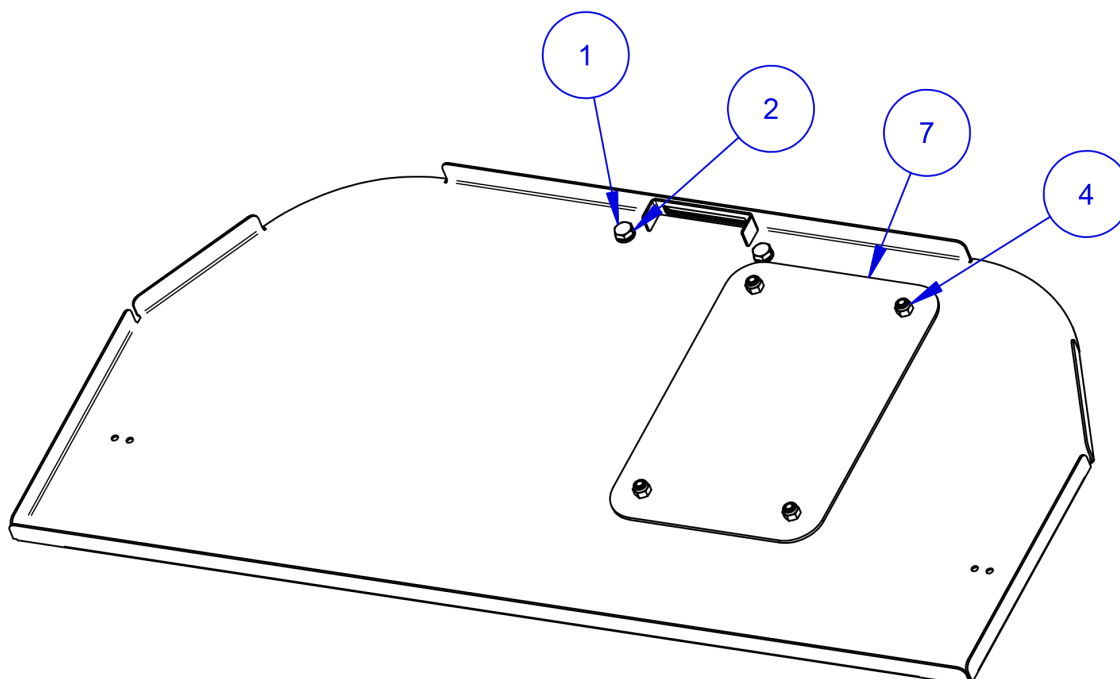
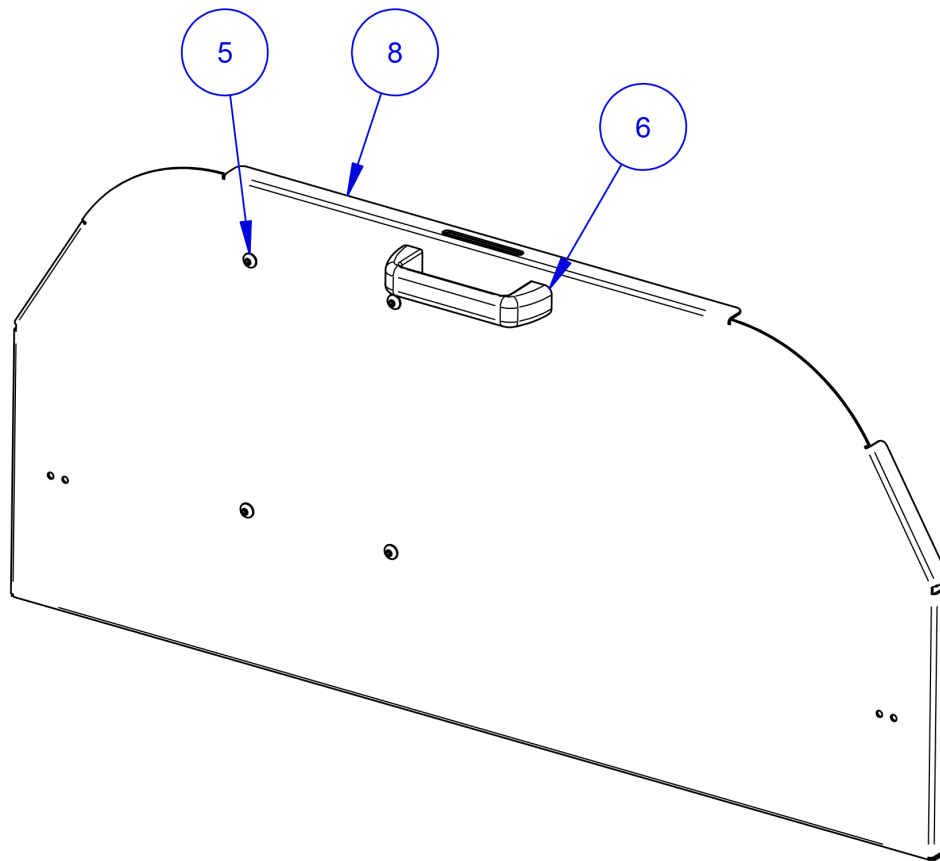
Seat Frame Assembly - Parts List, continued

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
1	010001	FASTENER, HHCS 1/4-20 X 1/2 GR 5	2
2	010019	FASTENER, HHCS 5/16-18 X 3/4 GR 5	3
3	010068	FASTENER, HHCS 1/2-13 X 1-1/4 GR 8	2
4	010082	FASTENER, FW 5/16	4
5	010109	FASTENER, NUT HEX NYLON 5/16-18	3
7	029671	FASTENER, NUT HEX 1/4-20 NYLOC	2
8	029928	CHOKE CABLE ASSEMBLY	1
9	032125	ROCKER SWITCH	1
10	032148	KIT, KEY IGNITION SWITCH	1
11	034610	SOCKET, T-2 SLIDE BASE LAMP	1
12	034611	LAMP, T-2 SLIDE BASE #5	1
13	034614	LENS, T-2 LAMP RED JEWEL	1
14	039329	FASTENER, CLIP TINNEMAN 1/4-20	8
15	041537	CUP HOLDER	1
16	042036	METER, TACH/HOUR INDUCTIVE	1
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19	045921	FITTING, F6400-8-8-0 STR JIC-SAE	1
20	045922	FITTING, F6400-4-6-0 STR JIC-SAE	2
21	045928	FITTING, F6400-4-4-0 STR JIC-SAE	8
22	046736	MANIFOLD, HYDR STEERING	1
23	046777	FITTING, F6400-6-4-0 STR JIC-SAE	2
24	046892	FITTING, 6801-6-6-NWO 90° ELB JIC-SAE	1
25	047052	RELAY, 12 V 30/50 A w/RES SHROUD	2
26	047665	BUMPER, RUBBER	3
27	049588	FEMALE RECEPTICAL 12VDC	1
28	049623	JOYSTICK PLATE ASS'Y	2
29	050049	ACCESS PANEL	2
30	052926	FITTING, HYD SMK20-7/16UNF-VE TEST PORT	1
31	052928	FITTING, HYD 9059-8-8	2
32	052930	COOLER, AIR/OIL 2005K-12S-BP	1
33	053447	DECAL, HAND TOOL AREA (SP)	1
34	056340	DECAL ALLEN OVAL 4" X 6.67" WHITE	1
35	061372	SEAT, RIDER	1
36	061373	ARM RESTS FOR SEAT	1
37	064247	BRACE F/ COOLER	2
38	064817	CONTROL VALVE, RH DUAL AXIS	1

SECTION 4 PARTS

Front Screen - Illustration

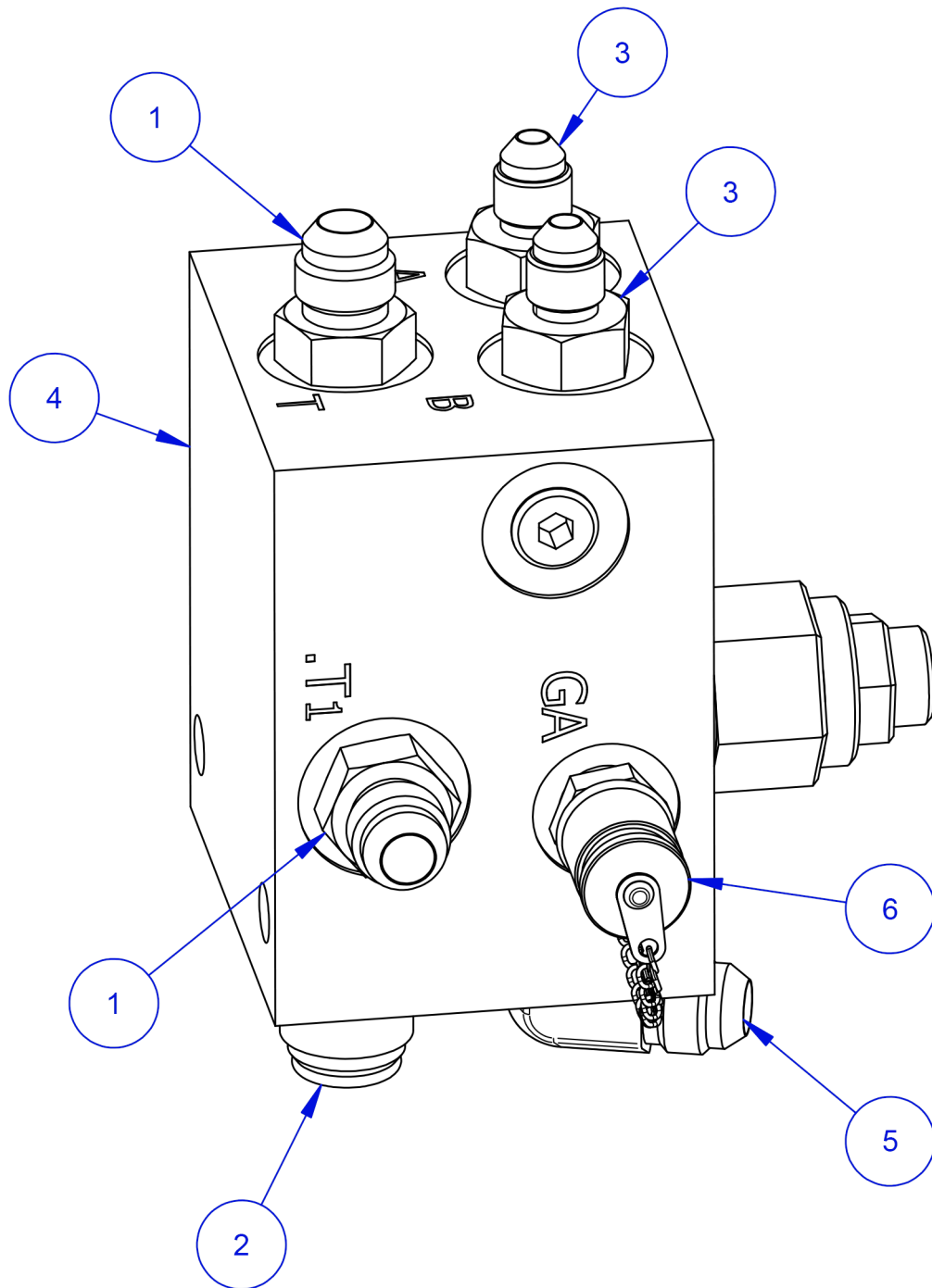


Front Screen - Parts List

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
-	065404	ASSEMBLY, FRONT SCREEN F/ HP245	-
1	010018	BOLT, 5/16-18x1/2 HHC	2
2	010090	WASHER, 5/16 SPLIT LOCK	2
3	010098	FASTENER, NUT HEX 1/4-20	4
4	029671	FASTENER, NUT HEX 1/4-20 NYLOC	4
5	042343	FASTENER, SFBHCS 1/4"-20 x 3/4	4
6	048678	HANDLE, LOAD RATED NYLON	1
7	056471	HEAT SHIELD	1
8	065405	FRONT SCREEN WELDMENT	1

Manifold Assembly - Illustration



Manifold Assembly - Parts List

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
1	045915	FITTING, F6400-6-6-0 STR JIC-SAE	2
2	045921	FITTING, F6400-8-8-0 STR JIC-SAE	1
3	045922	FITTING, F6400-4-6-0 STR JIC-SAE	2
4	046736	MANIFOLD, HYDR STEERING	1
5	046892	FITTING, 6801-6-6-NWO 90° ELB JIC-SAE	1
6	052926	FITTING, HYD SMK20-7/16UNF-VE TEST PORT	1

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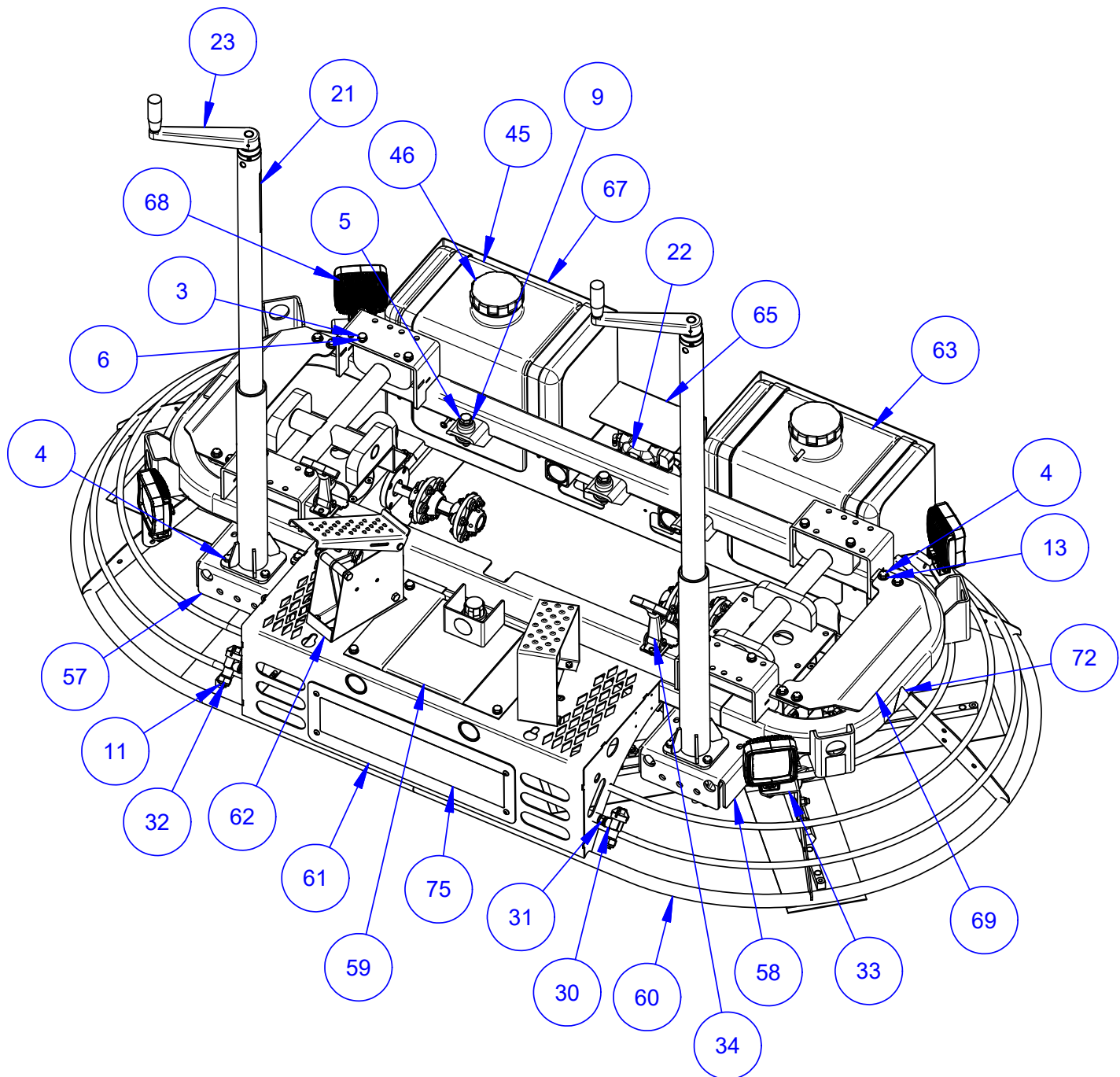
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SECTION 4 PARTS

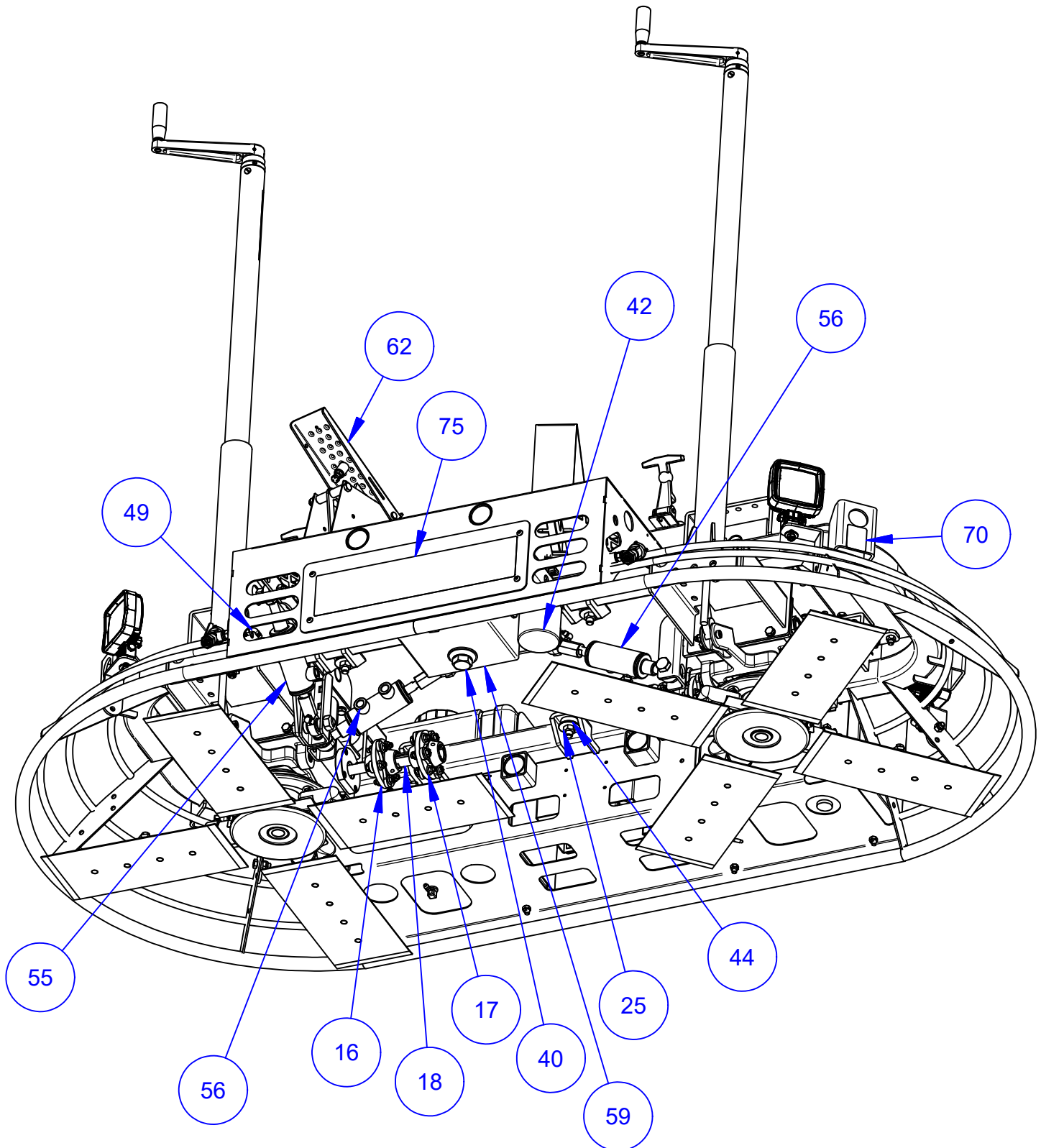
Mainframe Assembly - Illustration



Parts List located on Pages 72-73

Mainframe Assembly - Illustration, continued

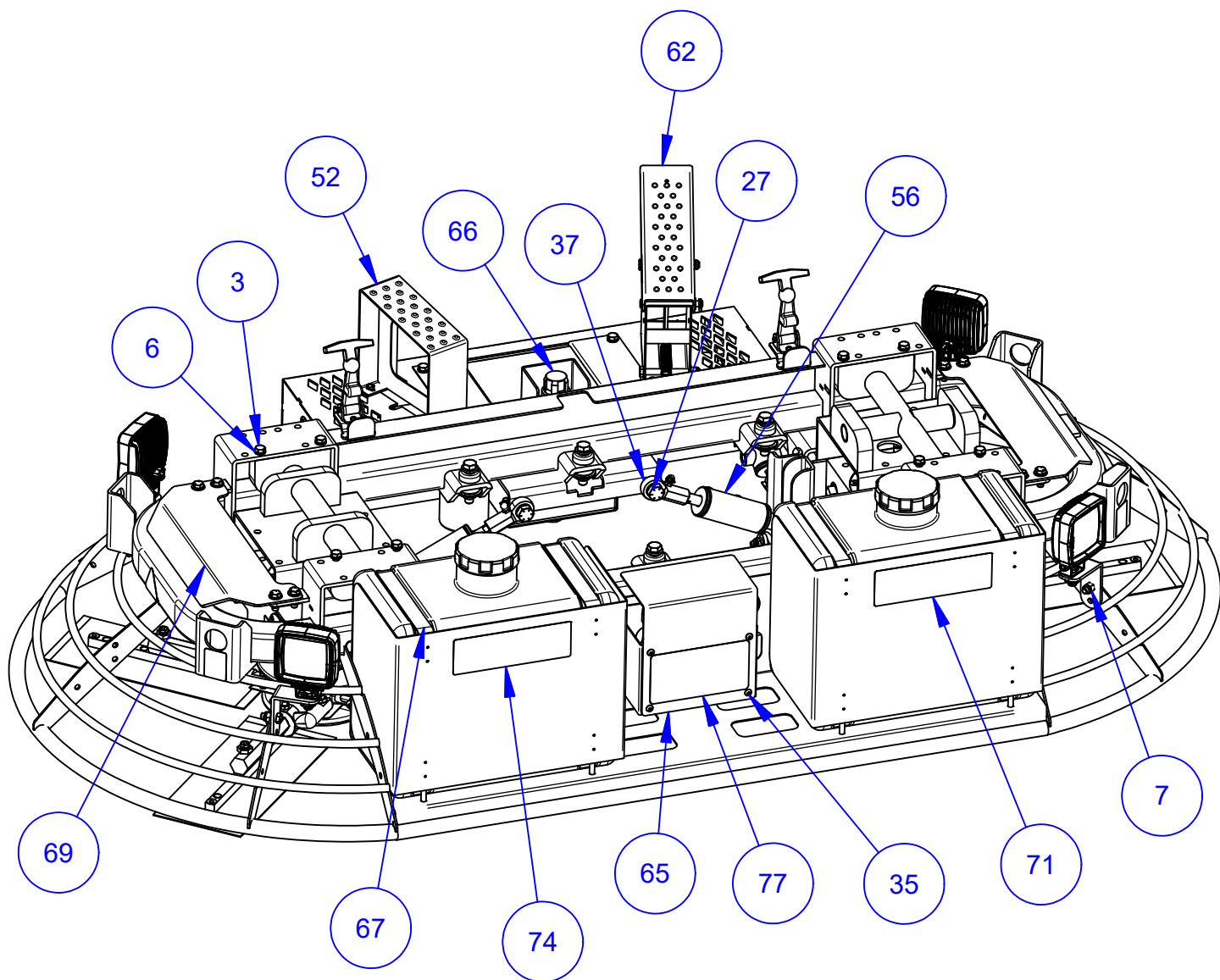
SECTION 4 PARTS



Parts List located on Pages 72-73

SECTION 4 PARTS

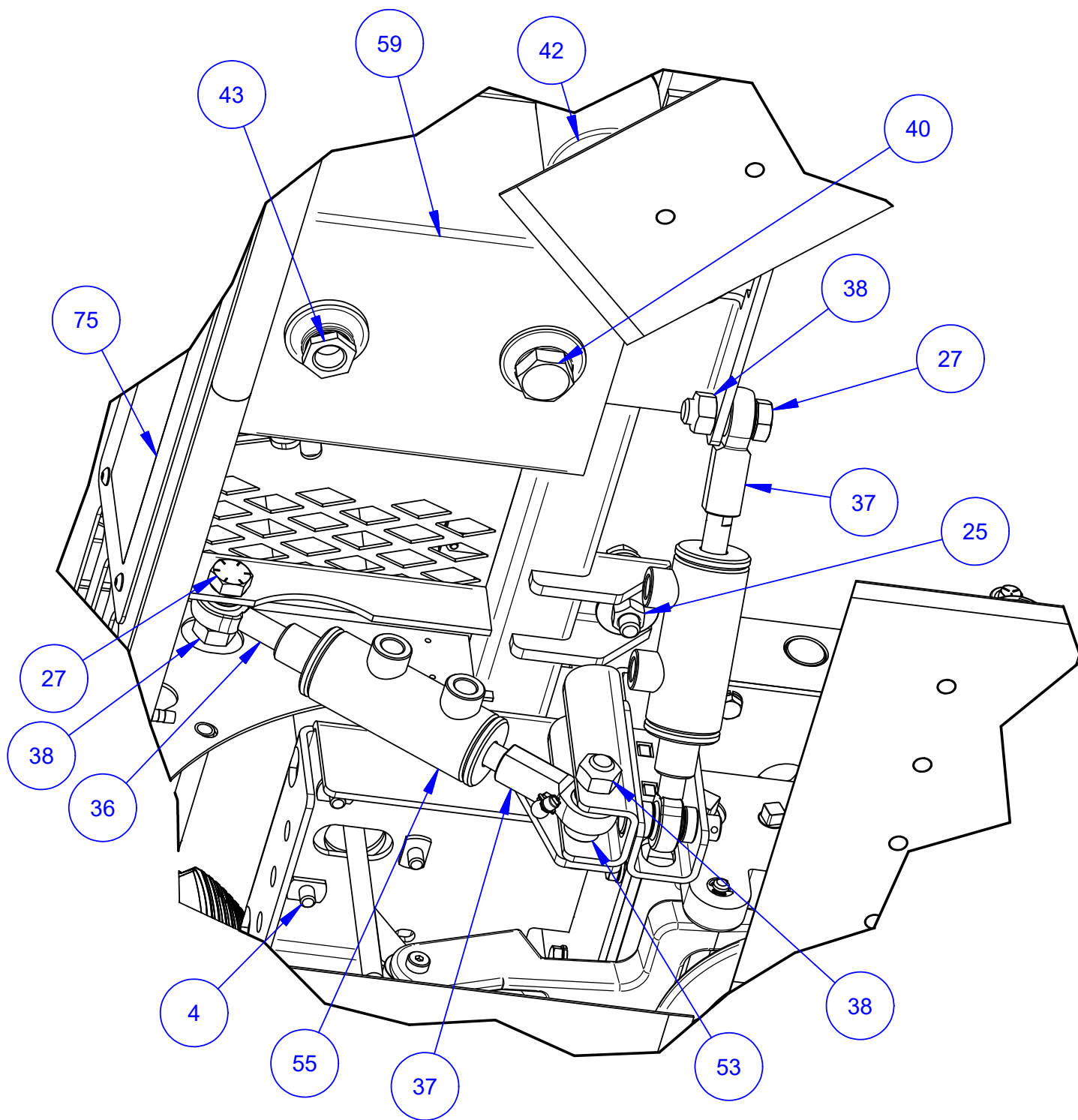
Mainframe Assembly - Illustration, continued



Parts List located on Pages 72-73

Mainframe Assembly - Illustration, continued

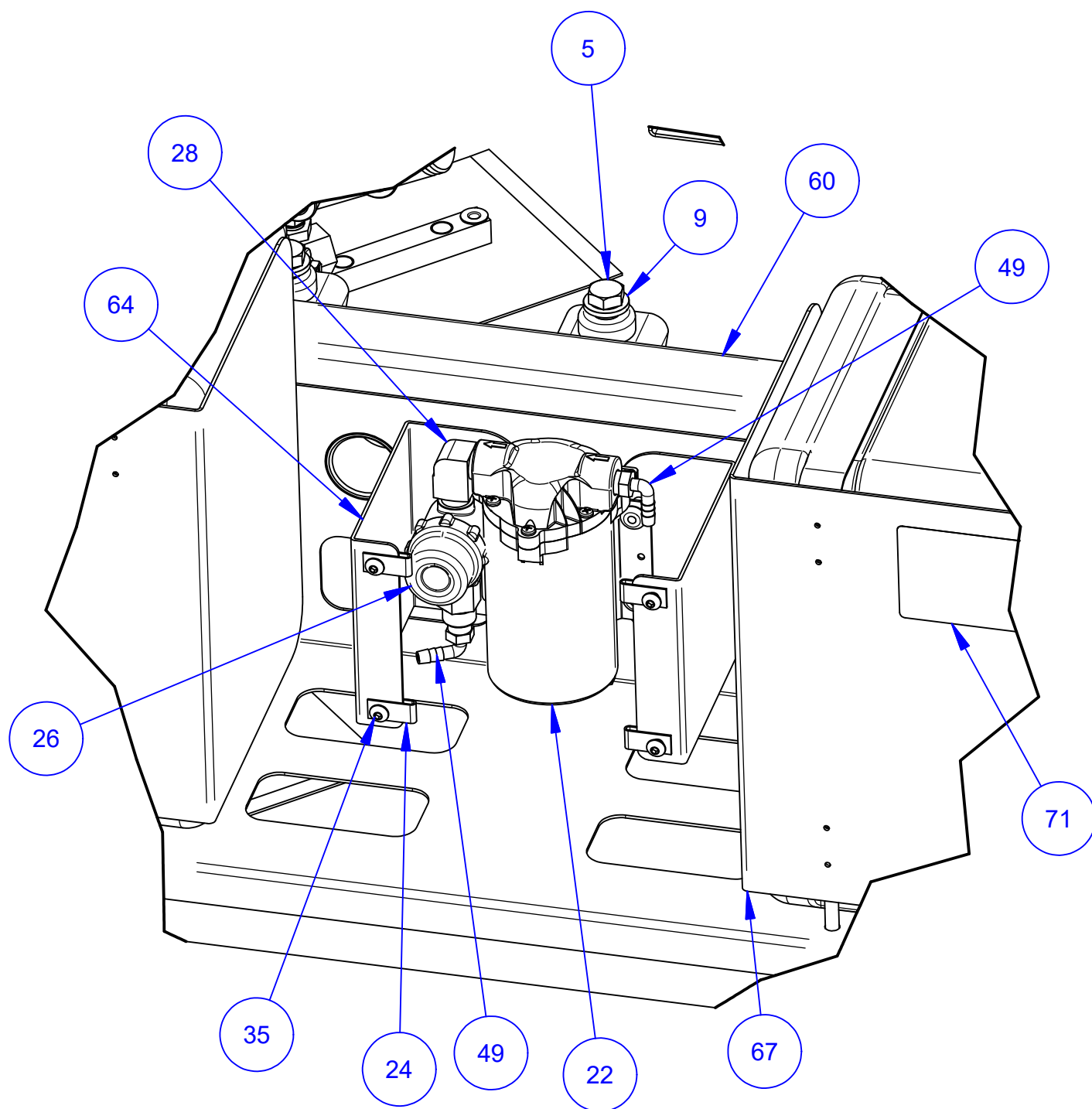
SECTION 4 PARTS



Parts List located on Pages 72-73

SECTION 4 PARTS

Mainframe Assembly - Illustration, continued



Parts List located on Pages 72-73

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SECTION 4 PARTS

Mainframe Assembly - Parts List

ITEM	PART NO.	DESCRIPTION	QTY
-	050023	ASSEMBLY, MAINFRAME	-
1	010002	FASTENER, HHCS 1/4-20 X 3/4	8
2	010034	FASTENER, HHCS 3/8-16 X 1/2	4
3	010035	FASTENER, HHCS 3/8-16 X 3/4	8
4	010036	FASTENER, HHCS 3/8-16 X 1 GR 8	18
5	010073	FASTENER, HHCS 1/2-13 X 2-1/2 GR 5	6
6	010091	FASTENER, LW 3/8	12
7	010464	FASTENER, NUT NYLOK 3/8-16 GR8	10
8	010568	SCR, 10-32 X 1/2 RND HD MACH	4
9	011490	FASTENER, FW HARDENED 1/2	6
10	012612	FASTENER, NUT HEX NYLOCK 5/16-18	4
11	012702	TIP, 80°x0.10 GPM BRASS SPRAY	2
12	016382	FASTENER, RHMS 10-32 X 1	1
13	017751	FASTENER, FW HARD A325 3/8	8
14	018072	WASHER, #10 Z STL SAE FLAT	1
15	020514	FASTENER, NUT STOVER LOCK 3/8-16	8
16	024967	COUPLER, Ø3/4xØ1 FLEX DISC	2
17	024968	COUPLER, Ø1xØ1 FLEX DISC	2
18	024971	SHAFT, DRIVE END 3-1/8"	2
19	029568	NUT, 10-32 NYLOCK HEX	1
20	029671	FASTENER, NUT HEX 1/4-20 NYLOC	8
21	032377	DECAL, F/ PITCH CONTROL TUBE	2
22	033735	PUMP, SPRAY SYSTEM	1
23	038174	ASSEMBLY, PSII PITCH CONTROL	2
24	039329	FASTENER, CLIP TINNEMAN 1/4-20	8
25	040208	FASTENER, 1/2-13 STOVER NUT	6
26	040209	FILTER, RETARDANT SPRAY SYSTEM	1
27	040319	BOLT, 5/8-18x1-1/4 GR 8 HHC	3
28	040387	ELBOW, 3/8 BRASS 90° STREET	1
29	040388	FITTING, 3/8X1/4 BRASS FM TO FM REDUCER	1
30	041604	VALVE, CHECK BODY	2
31	041606	PLASTIC 1/4 NPT CLOSE NIPPLE	2
32	041624	RETAINER, NYLON SPRAY TIP	2
33	042140	LIGHT BRACKET	4
34	042260	LATCH, FLEX DRAW LARGE RUBBER	2
35	042343	FASTENER, SFBHCS 1/4"-20 x 3/4	8
36	043124	ROD, END MALE 5/8	3
37	043125	5/8" FEMALE ROD END	3
38	043269	FASTENER, NUT STOVER 5/8-18	5
39	043493	HHCS 5/8-18 X 2 1/2	1

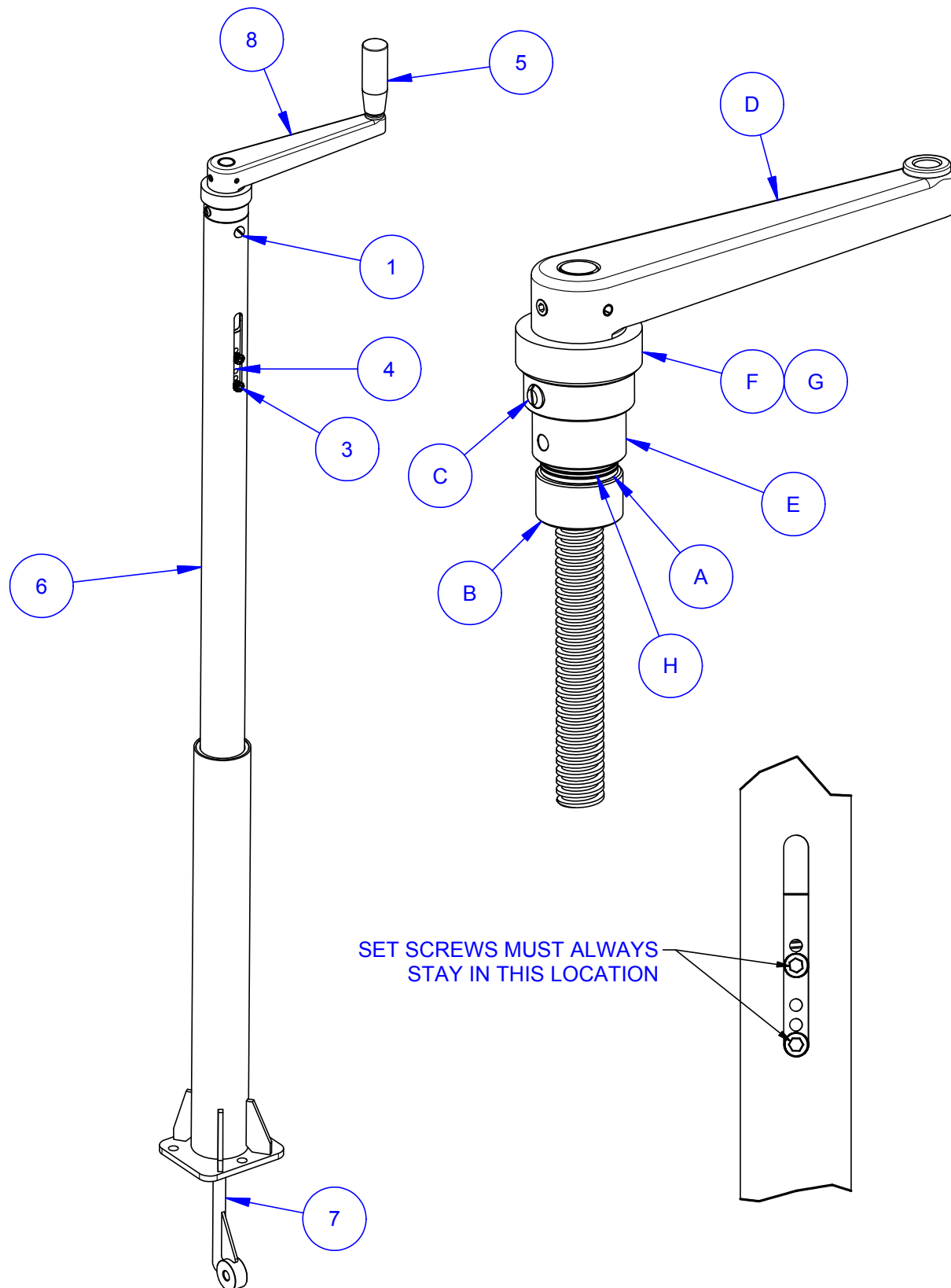
Mainframe Assembly - Parts List, continued

SECTION 4 PARTS

40	045948	FITTING, MAGNETIC PLUG	1
41	046729	FILTER HEAD	1
42	046730	FILTER ELEMENT SF	1
43	046732	SUCTION STRAINER	1
44	046744	MOUNT, VIB, 90#, YELLOW/WHITE	6
45	047700	TANK, 6 GALLON PLASTIC BLACK	1
46	047701	CAP, 3-1/2" VENTED BLACK	1
47	047702	FITTING, 'L' FUEL 1/4" NIPPLE 90 DEG	1
48	047703	BUSHING, 6 GAL PLASTIC TANK	1
49	047933	ELBOW, 1/4 PUSHLOK x 1/4 NPT PLASTIC	4
50	048299D	OIL, GEARBOX DECAL	2
51	048561	BEARING ASSEMBLY F/ ROTOR MOUNT X1	4
52	048571	FOOT REST	1
53	048627	SPACER, STEERING CONNECTION	6
54	048629	FASTENER, HHCS 5/8-11x2-3/4 GR 8	1
55	048660	CYLINDER, 1.5x.625 STEERING	1
56	048660	CYLINDER, 1.5x1.25 STEERING	2
57	050024	ROTOR ASSEMBLY, RH	1
58	050028	ROTOR ASSEMBLY, LH	1
59	050083	HYD TANK WELDMENT, MP245	1
60	050095	WELDMENT, MP245 MAIN FRAME	1
61	053137	FRONT COVER PLATE	1
62	053188	ASSY, THROTTLE PEDAL	1
63	053200	TANK ASSY, 6 GAL FUEL W/ CAP (EPA)	1
64	053323	BRACKET F/ PUMP COVER	2
65	053324	PUMP COVER	1
66	056421	FILLER BREATHER	1
67	064562	WELDMENT, TANK GUARD	2
68	064749	LIGHT, LED	4
69	065226	PLATE, FRAME COVER	2
70	065653	DECAL "LIFT HOOK"	4
71	065655	DECAL "RETARDANT ONLY"	1
72	065656	DECAL "PAN FALL"	2
73	065877	SPACER, TRACK BUGGY	1
74	066018	DECAL, GAS ONLY (7.75 X 2.5)	1
75	067547	DECAL, MP245 FRONT PLATE (16")	1
76	067550	DECAL, MP245 HYDRAULIC OIL ONLY	1
77	067552	DECAL, MP245 AEC INFO / WARRANTY	1

SECTION 4 PARTS

Pitch Control - Illustration 038174



Pitch Control - Parts List

038174

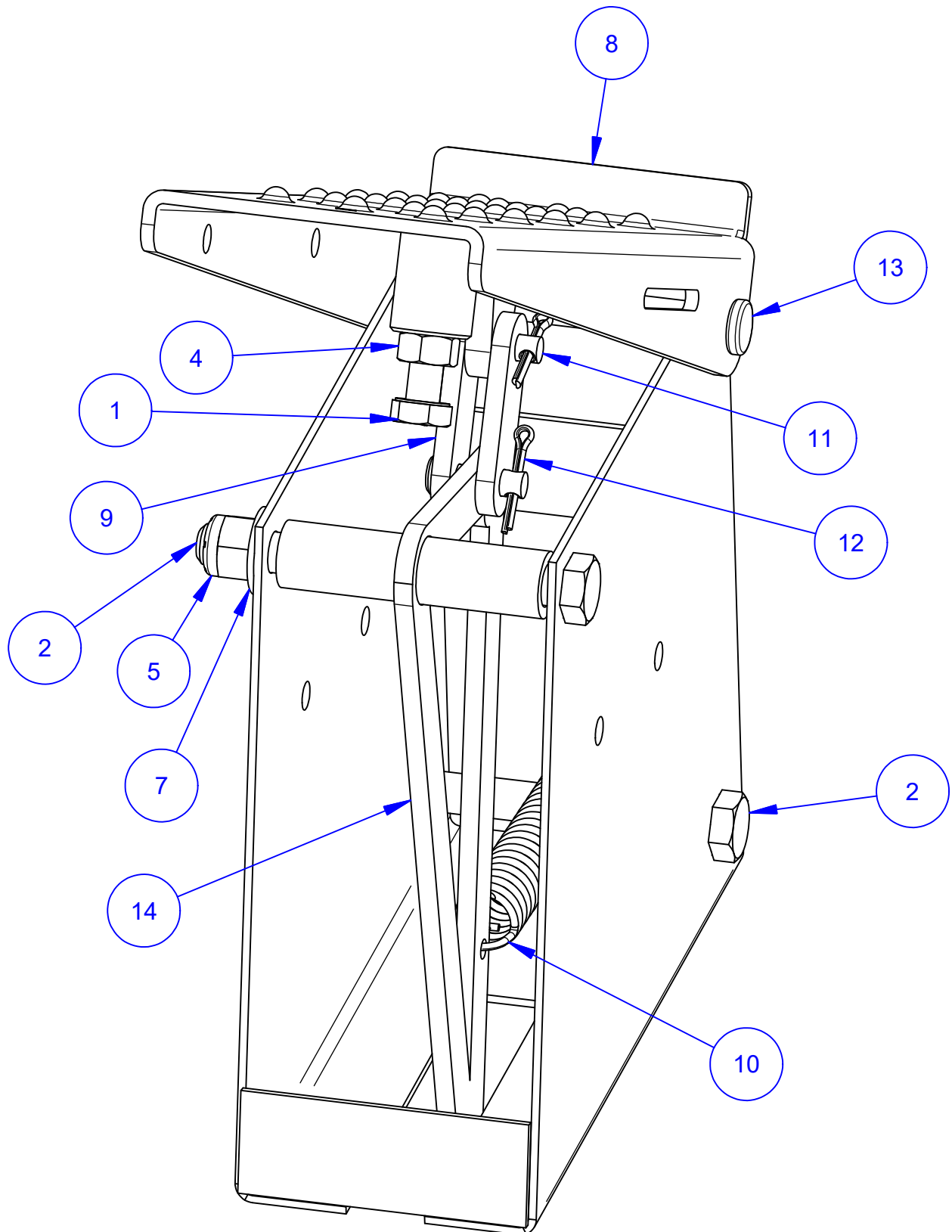
SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
-	038174	ASSEMBLY, PITCH CONTROL	-
1	015410	FASTENER, RHMS 1/4-20 X 3/8	2
2	015747	PIN, ROLL 3/16 X 1-3/8 SPIROL	1
3	015768	FASTENER, SHCS 1/4-20 X 1/4 HOLO	2
4	029812	BUSHING, SLIDE PITCH CONTROL PITCH CONTROL TUBE	1
5	032115	KNOB, PITCH CONTROL HANDLE (RT)	1
6	038176	WELDMENT, VANG & KOH PITCH CONT TUBE	1
7	038178	WELDMENT, PC SHAFT	1
8	061529	ASSEMBLY, SP/HP PITCH CONT CRANK HANDLE	1

ITEM	PART NO.	DESCRIPTION	QTY
-	038174	ASSEMBLY, PITCH CONTROL	-
A	012710	THRUST BEARING	2
B	032191	STOP F/ PITCH CONTROL HANDLE	1
C	040143	BALL NOSE SPRING PLUNGER	2
D	040144	HANDLE CRANK, SCREW SHAFT ASS'Y	1
E	040146	CABLE ASSEMBLY BUSHING	1
F	040280	BEARING, THRUST	1
G	040281	SPACER, 1" OD, 5/8 LG, 11 GA WALL	1
H	100340	BEARING, THRUST	1

SECTION 4 PARTS

Throttle Pedal Assembly - Illustration



Throttle Pedal Assembly - Parts List

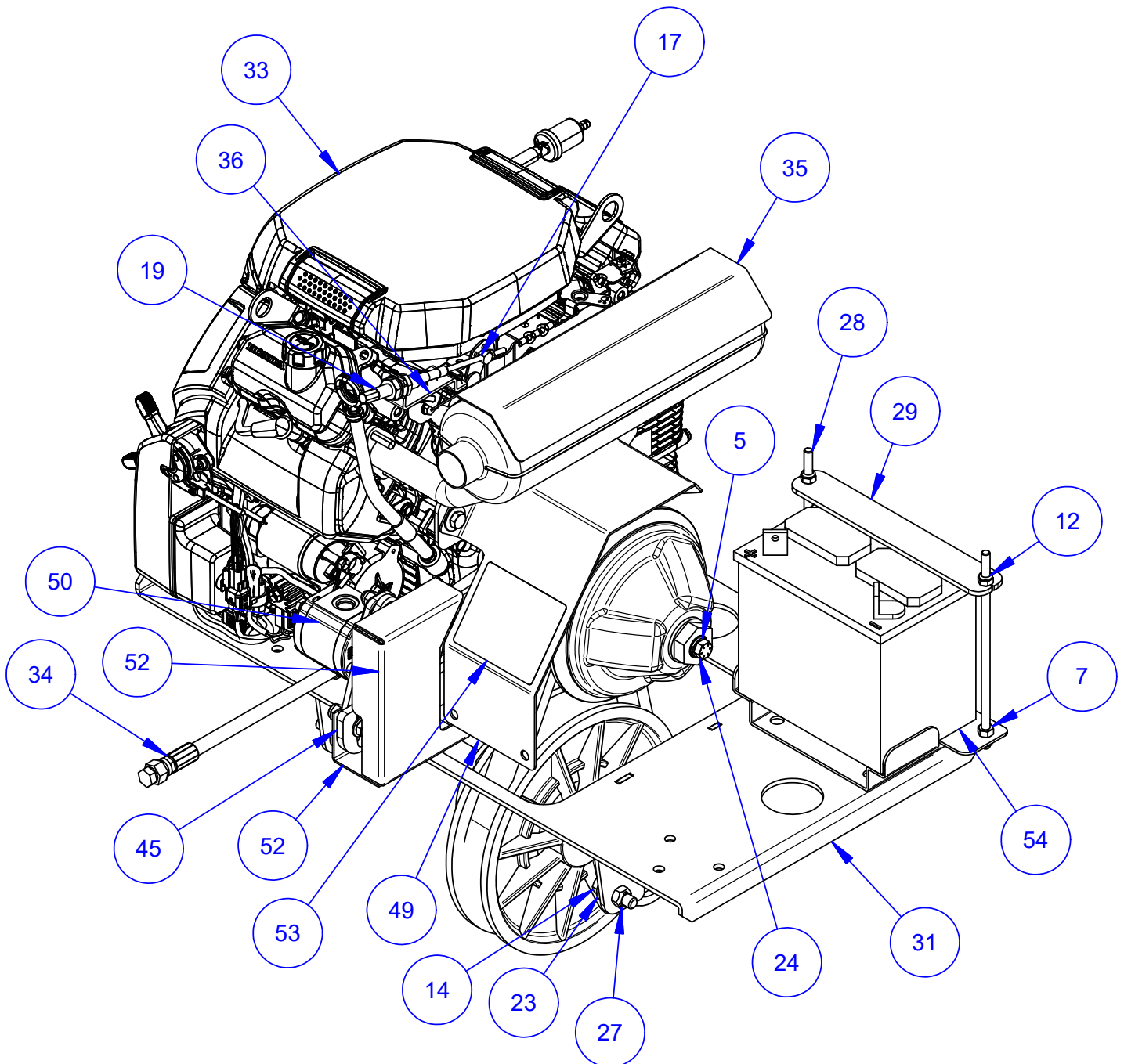
SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
-	053188	ASSEMBLY, THROTTLE PEDAL	-
1	010020	FASTENER, HHCS 5/16-18 X 1	1
2	010046	FASTENER, HHCS 3/8-16 X 3-1/2	2
3	010082	FASTENER, FW 5/16	1
4	010100	FASTENER, NUT HEX 5/16-18 GR8	1
5	010464	FASTENER, NUT NYLOK 3/8-16 GR 8	2
6	012361	PIN, Ø1/8 X 1 COTTER	1
7	017751	FASTENER, FW HARD A325 3/8	2
8	024839	ASSY, FOOT SPEED PEDAL	1
9	024850	SHACKLE 1-7/8" FOOT SPEED LONG	2
10	024981	EXTENSION SPRING	1
11	024982	FASTENER, PIN CLEVIS 1/4 X 51/64	2
12	026226	PIN, Ø3/32 X 3/4 ZP STL COTTER	2
13	028895	FASTENER, PIN CLEVIS 3/8 X 3 3/4	1
14	037947	FULCRUM, THROTTLE PEDAL	1
15	053186	BASE, THROTTLE	1

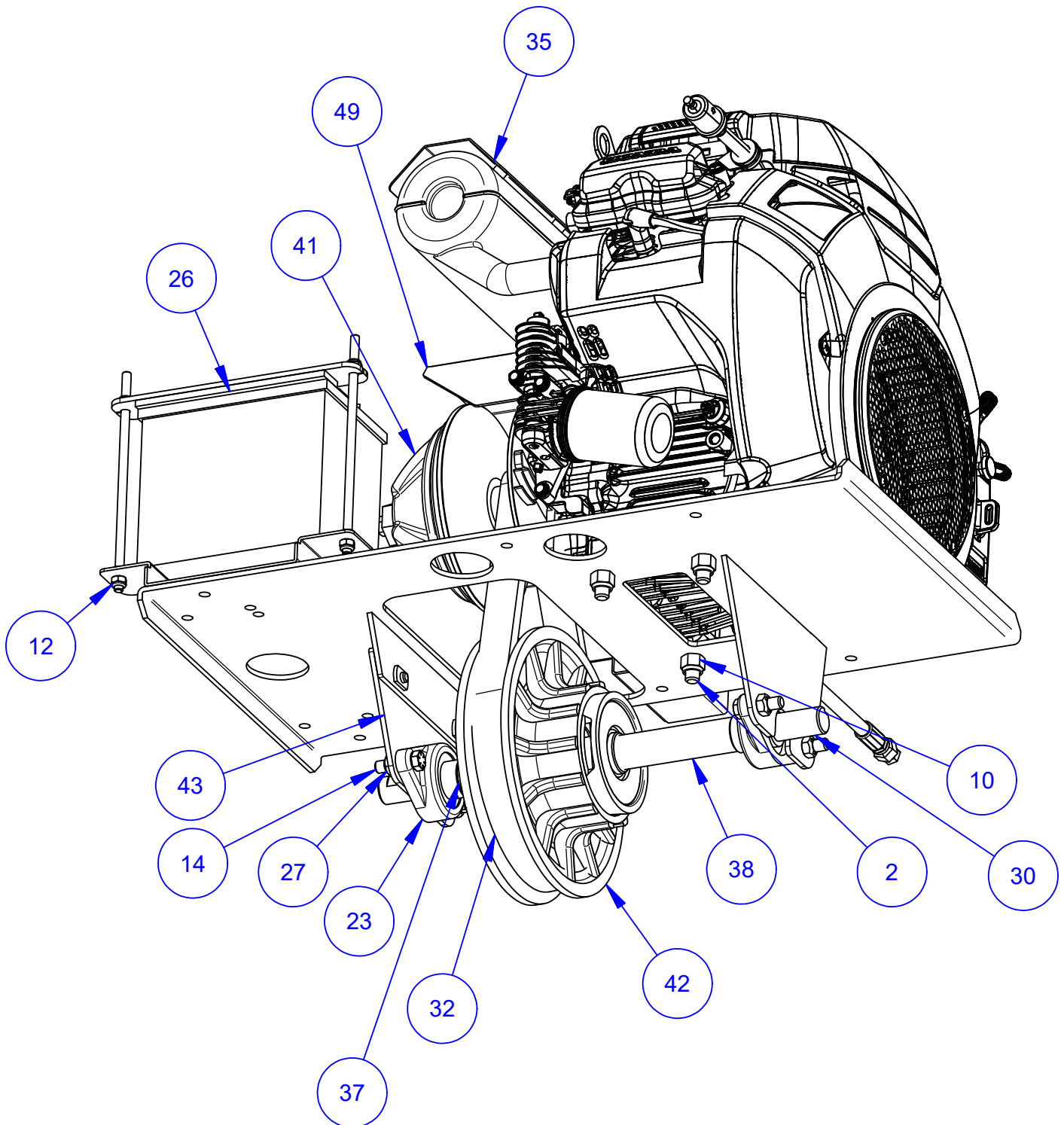


SECTION 4 PARTS

Power Unit - Illustration



Parts List located on Pages 80-81



Parts List located on Pages 80-81

SECTION 4 PARTS

Power Unit - Parts List

ITEM	PART NO.	DESCRIPTION	QTY
-	050066	ASSEMBLY, POWER UNIT	-
1	010035	FASTENER, HHCS 3/8-16 X 3/4	4
2	010072	FASTENER, HHCS 1/2-13 X 2-1/4 GR 5	4
3	010083	FASTENER, FW 3/8	2
4	010091	FASTENER, LW 3/8	4
5	010092	FASTENER, LW 7/16 GR 8	4
6	010096	FASTENER, Ø7/16 ID Y-ZINC HRDND FLAT	1
7	010100	FASTENER, NUT HEX 5/16-18 GR8	2
8	010102	FASTENER, NUT HEX 3/8-16	2
9	010464	FASTENER, NUT NYLOK 3/8-16 GR 8	4
10	011238	FASTENER, NUT HEX NYLOK 1/2-13	4
11	011490	FASTENER, FW HARDENED 1/2	4
12	012612	FASTENER, NUT HEX NYLOCK 5/16-18	4
13	017751	FASTENER, FW HARD A325 3/8	2
14	017898	FASTENER, HHCS 7/16-20 X 1-1/2 GR8	4
15	021072	FASTENER, LW 10MM	2
16	024820	STOCK, 1/4 SQx4 LG KEY	1
17	024984	PIVOT, THROTTLE CABLE	1
18	028402	FASTENER, HHCS 3/8-16 X 1-1/2 GR 8	2
19	032300	CABLE, THROTTLE 60" HD	1
20	032862	HEX-HEAD BOLT M10X40	2
21	032875	FASTENER, HHCS 3/8-16 X 1-1/4 GR 8	2
22	033661	PLATE, BELT GURD BKT. F/ BLM	1
23	039136	1" FLANGED 2 BOLT BEARING W/ COLLAR	2
24	042280	SCR, 7/16-20x4-1/2 YZ GR 8 HHC	1
25	046550	PULLEY, AK30 X 1/2 BORE w/2SS	1
26	047273	CUSHION F/ BATTERY STRAP	1
27	047477	NUT, 7/16-20 YZ GR 8 STOVER	4
28	047715	ROD, 5/16-18 BATTERY RETAINER 8-5/8"	2

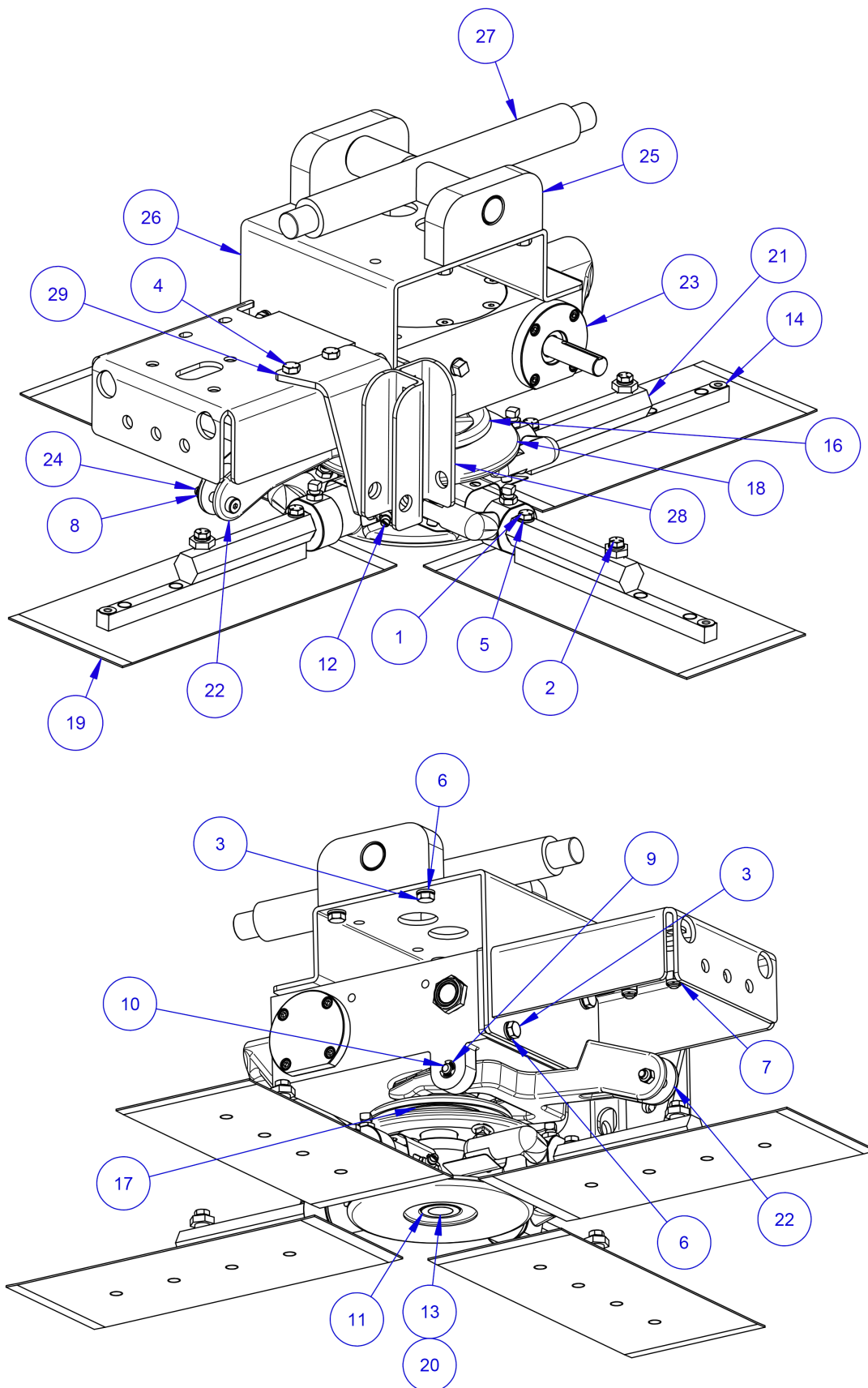
Power Unit - Parts List, continued

SECTION 4 PARTS

29	048932	BAR, BATTERY HOLD DOWN	1
30	050070	SHAFT, DRIVE 17 1/2 F/LOCK BEARING	1
31	050092	ENGINE PLATE WELDMENT	1
32	051332	BELT, CVT	1
33	051978	ENGINE, HONDA GX690	1
34	051980	HOSE, DRAIN F/ HONDA GX690	1
35	051981	MUFFLER, HONDA GX690	1
36	052723	THROTTLE BRACKET, GX690 HONDA	1
37	053193	SPACER, BEARING, 1 3/8"	1
38	053194	SPACER, BEARING, 4 3/4"	1
39	053207	FASTENER, HHCS 7/16-14 X 1-1/4	2
40	053210	KEY, 3/16 X 1/4 X 2	1
41	053327	PULLEY, 20:1 DRIVER	1
42	053389	PULLEY	1
43	053465	BEARING SUPPORT	1
44	056775	SHEAVE AK30x1-1/8	1
45	056906	ENGINE CONNECTING PLATE	1
46	056912	HYDRAULIC PUMP MNTG PLATE WELDMENT	1
47	056922	HI-POWER V BELT	1
48	064834	SCR, 7/16-20x5 YZ GR 8 HHC	1
49	065435	CLUTCH COVER	1
50	066794	GEAR PUMP	1
51	067409	SPACER F/ CLUTCH	1
52	067432	GUARD F/ AUX PUMP	1
53	067551	DECAL, MP245 WARNINGS-RIDER (4")	1
54	BT0100	BATTERY 340 CCA	1
-	001005	OIL, MOTOR 10W30	.37
-	056938	HEAT WRAP, 14" X 20" (NOT SHOWN)	1

SECTION 4 PARTS

RH Rotor Assembly - Illustration



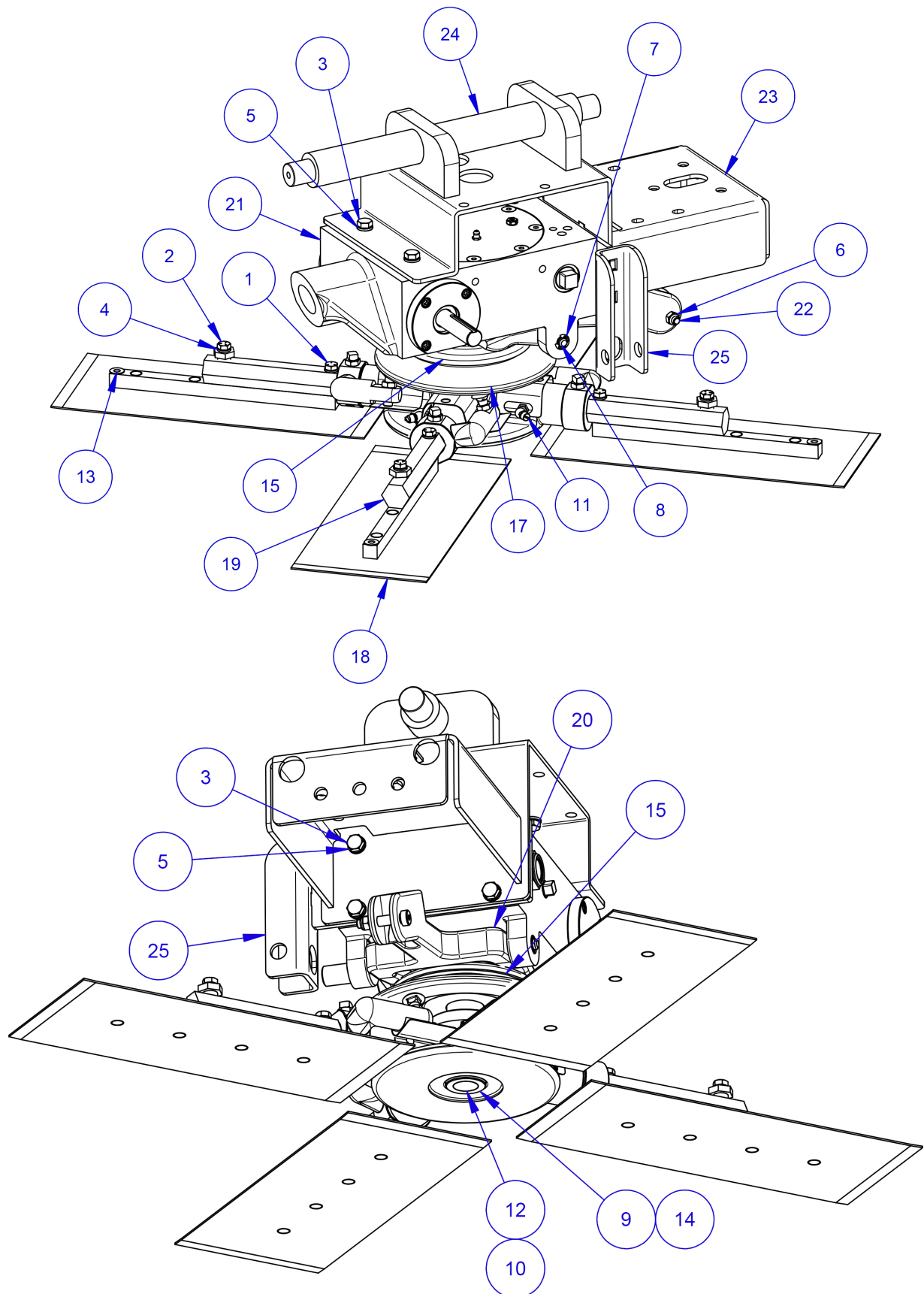
RH Rotor Assembly - Parts List

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
-	050024	ASSEMBLY, RIGHT HAND ROTOR	-
1	010023	FASTENER, HHCS 5/16-18 X 1-3/4	4
2	010024	FASTENER, HHCS 5/16-18 X 2 GR 5	4
3	010035	FASTENER, HHCS 3/8-16 X 3/4	10
4	010036	FASTENER, HHCS 3/8-16 X 1 GR 8	2
5	010090	FASTENER, LW 5/16	8
6	010091	FASTENER, LW 3/8	10
7	010464	FASTENER, NUT NYLOK 3/8-16 GR8	2
8	012612	FASTENER, NUT HEX NYLOCK 5/16-18	1
9	015677	RING, Ø7/16 E-STYLE RETAINING	2
10	015678	PIN, YOKE ARM	1
11	015690	WASHER, RETAINING FOR TROWELS	1
12	015692	CAP, Ø1/4 RED GREASE	4
13	015693	PLUG, PLASTIC CAP EC12	1
14	015694	PLUG W-1 RED PLASTIC TAPERD	4
15	015696	KEY, .25x1.25 LG HARD RAD	1
16	015821	CAP, PRESSURE PLATE	1
17	015822	THRUST BEARING	1
18	015824	PLATE, PRO RIDER/WALKER PRESSURE	1
19	015890	TROWEL BLADE, FINISH 6 X 14	4
20	020155	SCR, 1/2-13 X 1-1/2 LH SHCS	1
21	024813	SPIDER ASS'Y, RH	1
22	026215	YOKE, ARM	1
23	026443	GEARBOX, STD RH (SOM)	1
24	026504	SCR, 5/16-18x1/2xØ3/8x1-1/4 SHLDR	1
25	048561	BEARING ASSEMBLY F/ ROTOR MOUNT	2
26	050017	HOUSING, GEARBOX	1
27	050020	CROSSHEAD, 4-WAY	1
28	050025	CYLINDER MOUNT BRACKET WELDMNT	1
29	050031	STEERING BRACKET WELDMNT	1

SECTION 4 PARTS

LH Rotor Assembly - Illustration 050028



LH Rotor Assembly - Parts List

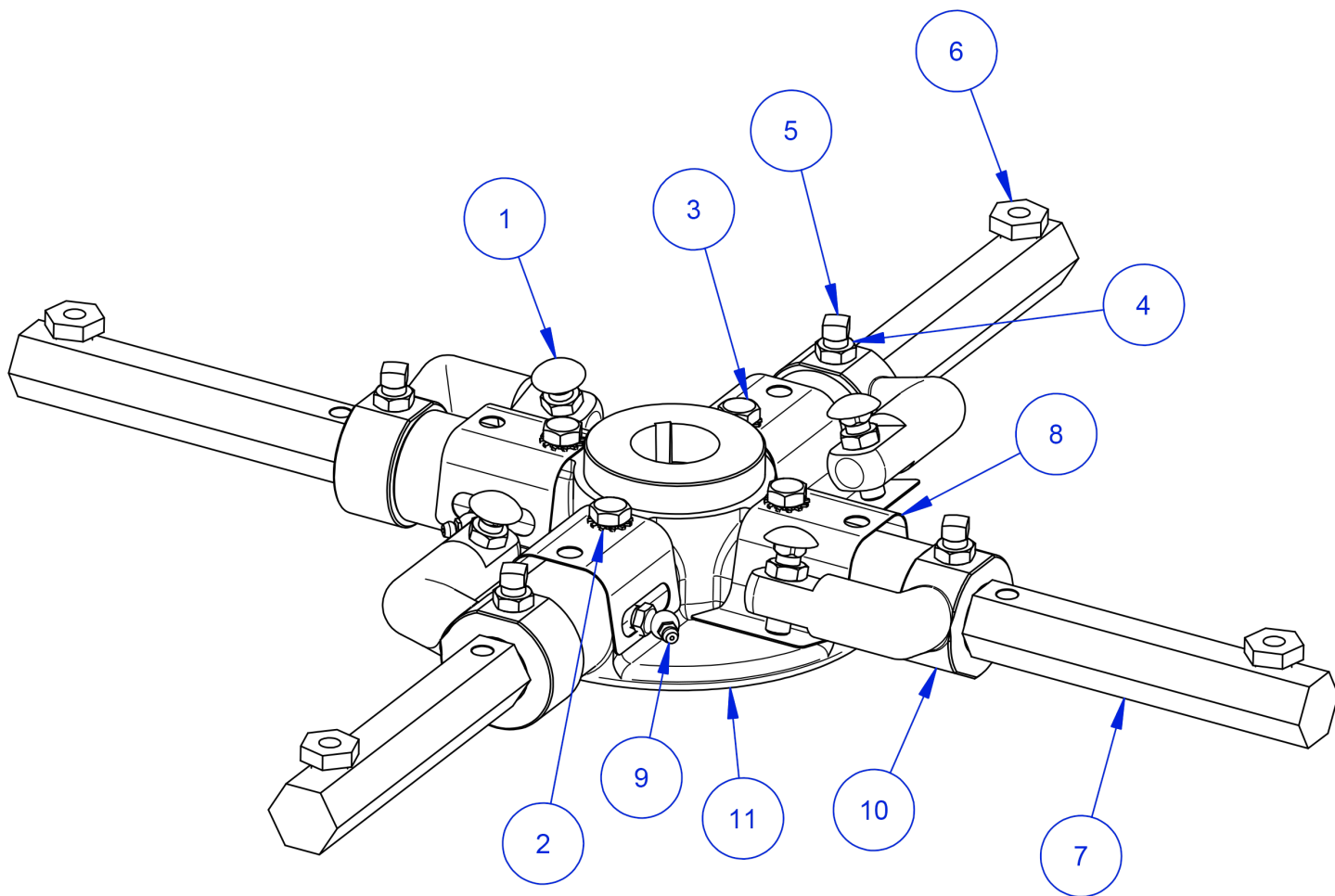
050028

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
-	050028	ASSEMBLY, LEFT HAND ROTOR	-
1	010023	FASTENER, HHCS 5/16-18 X 1-3/4	4
2	010024	FASTENER, HHCS 5/16-18 X 2 GR 5	4
3	010035	FASTENER, HHCS 3/8-16 X 3/4	10
4	010090	FASTENER, LW 5/16	8
5	010091	FASTENER, LW 3/8	10
6	012612	FASTENER, NUT HEX NYLOCK 5/16-18	1
7	015677	RING, Ø7/16 E-STYLE RETAINING	2
8	015678	PIN, YOKE ARM	1
9	015690	WASHER, RETAINING FOR TROWELS	1
10	015691	FASTENER, SHCS 1/2-13 X 1-1/2 RH	1
11	015692	CAP, Ø1/4 RED GREASE	4
12	015693	PLUG, PLASTIC CAP EC12	1
13	015694	PLUG W-1 RED PLASTIC TAPERD	4
14	015696	KEY, .25x1.25 LG HARD RAD	1
15	015821	CAP, PRESSURE PLATE	1
16	015822	THRUST BEARING	1
17	015824	PLATE, PRO RIDER/WALKER PRESSURE	1
18	015890	TROWEL BLADE, FINISH 6 X 14	4
19	015893	SPIDER ASSY, LH-SOM	1
20	026215	YOKE, ARM	1
21	026442	GEARBOX, STD LH (SOM)	1
22	026504	SCR, 5/16-18x1/2xØ3/8x1-1/4 SHLDR	1
23	050017	HSNG, GEARBOX	1
24	050022	CROSSHEAD, 2-WAY	1
25	050025	CYL MNT BRACKET WELDMENT	1

SECTION 4 PARTS

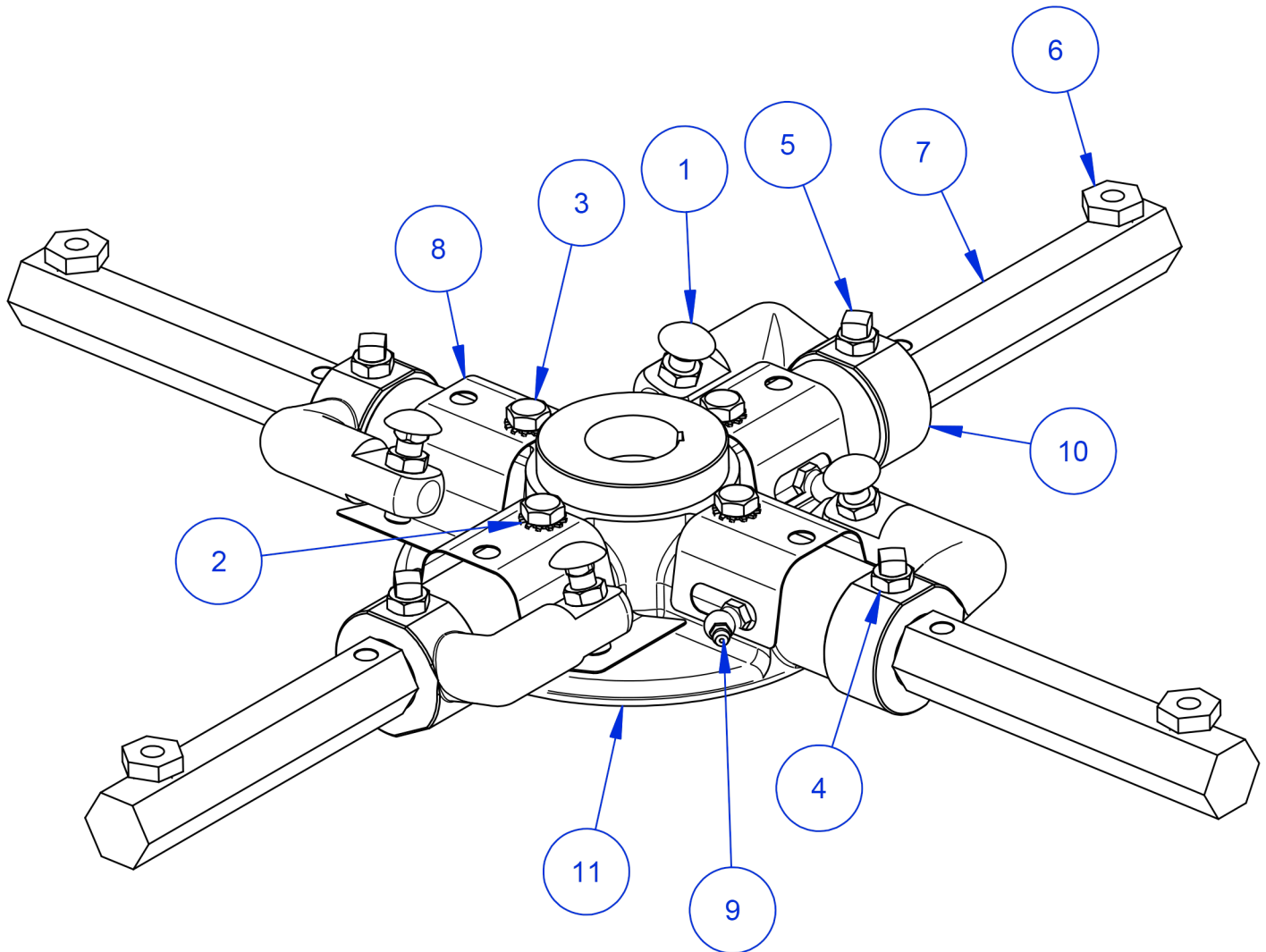
RH Spider Assembly - Illustration and Parts List



ITEM	PART NO.	DESCRIPTION	QTY
-	024813	ASSEMBLY, RIGHT HAND SPIDER	-
1	012990	FASTENER, CABLT 3/8-16 X 1-1/4"	4
2	015682	WASHER, 3/8 EXT TOOTH LOCK	4
3	015683	BOLT, 3/8-16 X 7/8 DOG PT HEX HD CAP	4
4	015684	FASTENER, NUT HEX JAM 3/8-16	8
5	015686	FASTENER, SQHSS 3/8-16 X 1	4
6	015688	FASTENER, 9/16-18 NF ADJ/MACH SCRW	16
7	015818	TROWEL ARM, STD 36" SPIDER	4
8	016920	SPRING CLIP, UNIVERSAL SPIDERS	4
9	024755	FITTING, 1/8-27 NPT 45° GREASE	4
10	033032	LIFT LEVER, STD UNIVERSAL	4
11	064221	SPIDER, 4 BOSS UNIVERSAL	1

LH Spider Assembly - Illustration and Parts List

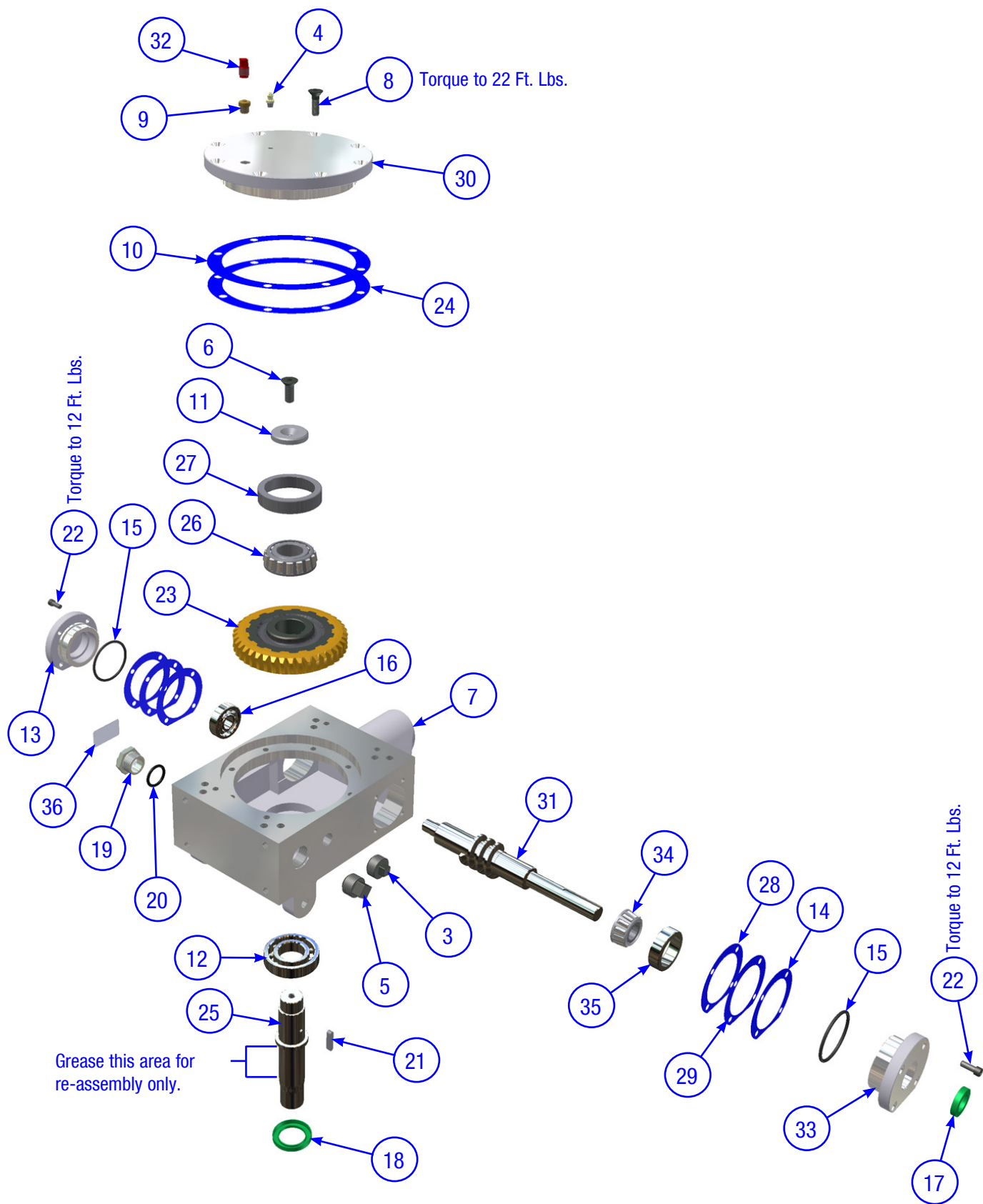
SECTION 4 PARTS



ITEM	PART NO.	DESCRIPTION	QTY
-	015893	ASSEMBLY, LEFT HAND SPIDER	-
1	012990	FASTENER, CABLT 3/8-16 X 1-1/4"	4
2	015682	WASHER, 3/8 EXT TOOTH LOCK	4
3	015683	BOLT, 3/8-16 X 7/8 DOG PT HEX HD CAP	4
4	015684	FASTENER, NUT HEX JAM 3/8-16	8
5	015686	FASTENER, SQHSS 3/8-16 X 1	4
6	015688	FASTENER, 9/16-18 NF ADJ/MACH SCRW	4
7	015818	TROWEL ARM, STD 36" SPIDER	4
8	016920	SPRING CLIP, UNIVERSAL SPIDERS	4
9	024755	FITTING, 1/8-27 NPT 45° GREASE	4
10	033032	LIFT LEVER, STD UNIVERSAL	4
11	064221	SPIDER, 4 BOSS UNIVERSAL	1

SECTION 4 PARTS

RH Gearbox Assembly - Illustration

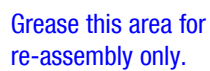


RH Gearbox Assembly - Parts List

SECTION 4 PARTS

ITEM	PART #	DESCRIPTION	QTY
-	026443	ASSEMBLY, RIGHT HAND GEARBOX	-
1	001003	GREASE, MOBILITH SCH 220	.094
2	048299	OIL, ALLEN ENGINEERING GEARBOX	.757/LT
3	010498	PLUG, 3/8 NPT BI SQ HD PIPE	1
4	010513	FITTING, 1/4-28 NPT STR GREASE	1
5	012953	PLUG, 3/4 NPTF BI SQ HD PIPE	1
6	013746	FASTENER, FHCSS 3/8-16 X 1	1
7	015204	GEAR BOX,MACHINE FINISHED	1
8	015205	FASTENER, SCREW FHSSS 5/16-18 X 1	8
9	015209	VALVE 1/8 NPT-27 RELIEF	1
10	015210	GASKET .005 THICK, TOP COVER	AS REQ.
11	015213	WASHER PRESSURE	1
12	015217	BEARING, RADIAL BALL	1
13	015221	CAP,GEAR BOX END	1
14	015222	GASKET, END CAP & FLANGE .005	AS REQ.
15	015660	O-RING, GEAR BOX END CAPS	2
16	015663	BEARING ANGULAR CONTACT	1
17	015670	SEAL, OIL CR# 7455V	1
18	015671	SEAL, OIL CR# 13661	1
19	015672	GAUGE, 3/4-14 NPT PORTHOLE VIEW	1
20	015673	O-RING, 15/16x1-3/16x1/8 BUNA	1
21	015696	KEY, .25x1.25 LG HARD RAD	1
22	017314	FASTENER, SHCS 1/4-20 X 5/8	8
23	018924	GEAR,BRONZE LH	1
24	020018	GASKET .003 THICK, TOP COVER	AS REQ.
25	020120	SHAFT, MAIN MACH FINISHED	1
26	022073	BEARING TAPERED ROLLER	1
27	022074	BEARING RACE	1
28	022185	GASKET, END CAP & FLANGE .002	AS REQ.
29	022186	GASKET, END CAP & FLANGE .003	AS REQ.
30	026406	COVER-GEAR BOX MACH. FINISHED	1
31	026741	SHAFT, INPUT LH GEAR BOX	1
32	032745	PLUG, PLASTIC 1/8" P18-27 (TRANSPORT ONLY)	1
33	044601	FLANGE, GEAR BOX (4 HOLE)	1
34	044603	BEARING, TAPERED ROLLER	1
35	044604	BEARING RACE	1
36	048340	DECAL, ALLEN ENGR GEARBOX	1

LH Gearbox Assembly - Illustration



LH Gearbox Assembly - Parts List

SECTION 4 PARTS

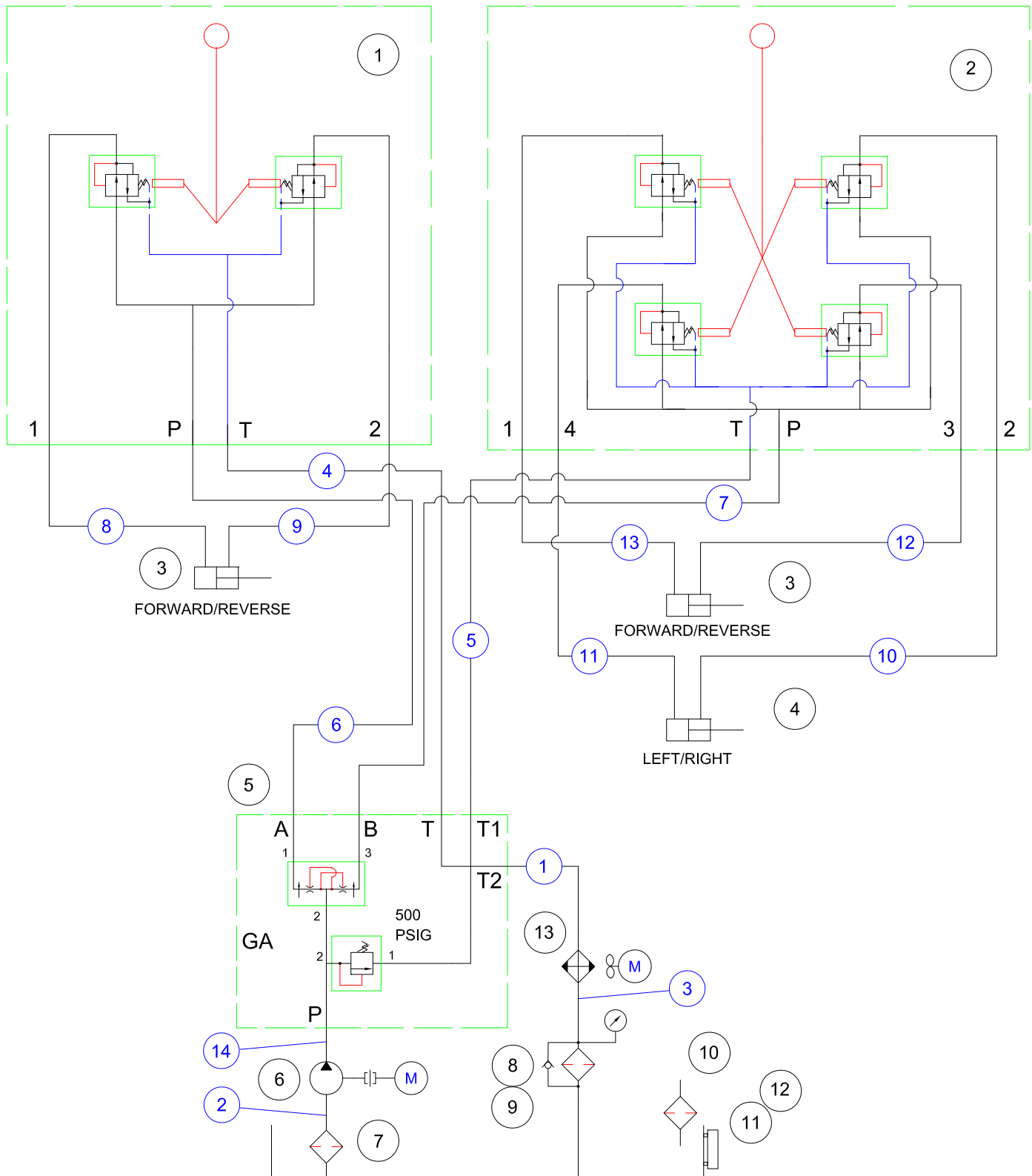
ITEM	PART #	DESCRIPTION	QTY
-	026442	ASSEMBLY, LEFT HAND GEARBOX	-
1	001003	GREASE, MOBILITH SCH220	.094
2	048299	OIL, ALLEN ENGINEERING GEARBOX	.757/LT
3	010498	PLUG, 3/8 NPT BI SQ HD PIPE	1
4	010513	FITTING, 1/4-28 NPT STR GREASE	1
5	012953	PLUG, 3/4 NPTF BI SQ HD PIPE	1
6	015204	GEAR BOX,MACHINE FINISHED	1
7	015205	FASTENER, SCREW FHSSS 5/16-18 X 1	8
8	015209	VALVE 1/8 NPT-27 RELIEF	1
9	015210	GASKET .005 THICK, TOP COVER	AS REQ.
10	015212	FASTENER, SCREW FHSS 3/8-16 X 1 LH	1
11	015213	WASHER PRESSURE	1
12	015216	GEAR,BRONZE RH	1
13	015217	BEARING, RADIAL BALL	1
14	015219	SHAFT, MAIN MACH FINISHED	1
15	015221	CAP, GEAR BOX END	1
16	015222	GASKET, END CAP & FLANGE .005	AS REQ.
17	015660	O-RING, GEAR BOX END CAPS	2
18	015663	BEARING ANGULAR CONTACT	1
19	015670	SEAL, OIL CR# 7455V	1
20	015671	SEAL, OIL CR# 13661	1
21	015672	GAUGE, 3/4-14 NPT PORTHOLE VIEW	1
22	015673	O-RING, 15/16x1-3/16x1/8 BUNA	1
23	015696	KEY, .25x1.25 LG HARD RAD	1
24	017314	FASTENER, SHCS 1/4-20 X 5/8	8
25	020018	GASKET .003 THICK, TOP COVER	AS REQ.
26	022073	BEARING TAPERED ROLLER	1
27	022074	BEARING RACE	1
28	022185	GASKET, END CAP & FLANGE .002	AS REQ.
29	022186	GASKET, END CAP & FLANGE .003	AS REQ.
30	026406	COVER-GEAR BOX MACH. FINISHED	1
31	026740	SHAFT, INPUT RH GEAR BOX	1
32	032745	PLUG, PLASTIC 1/8" P18-27 (TRANSPORT ONLY)	1
33	044601	FLANGE, GEAR BOX (4 HOLE)	1
34	044603	BEARING, TAPERED ROLLER	1
35	044604	BEARING RACE	1
36	048340	DECAL, ALLEN ENGR GEARBOX	1

SECTION 4 PARTS

Hydraulic Schematic - Illustration

LEFT HAND JOYSTICK
STEERING CONTROL

RIGHT HAND JOYSTICK
STEERING CONTROL



Hydraulic Schematic - Parts List

SECTION 4 PARTS

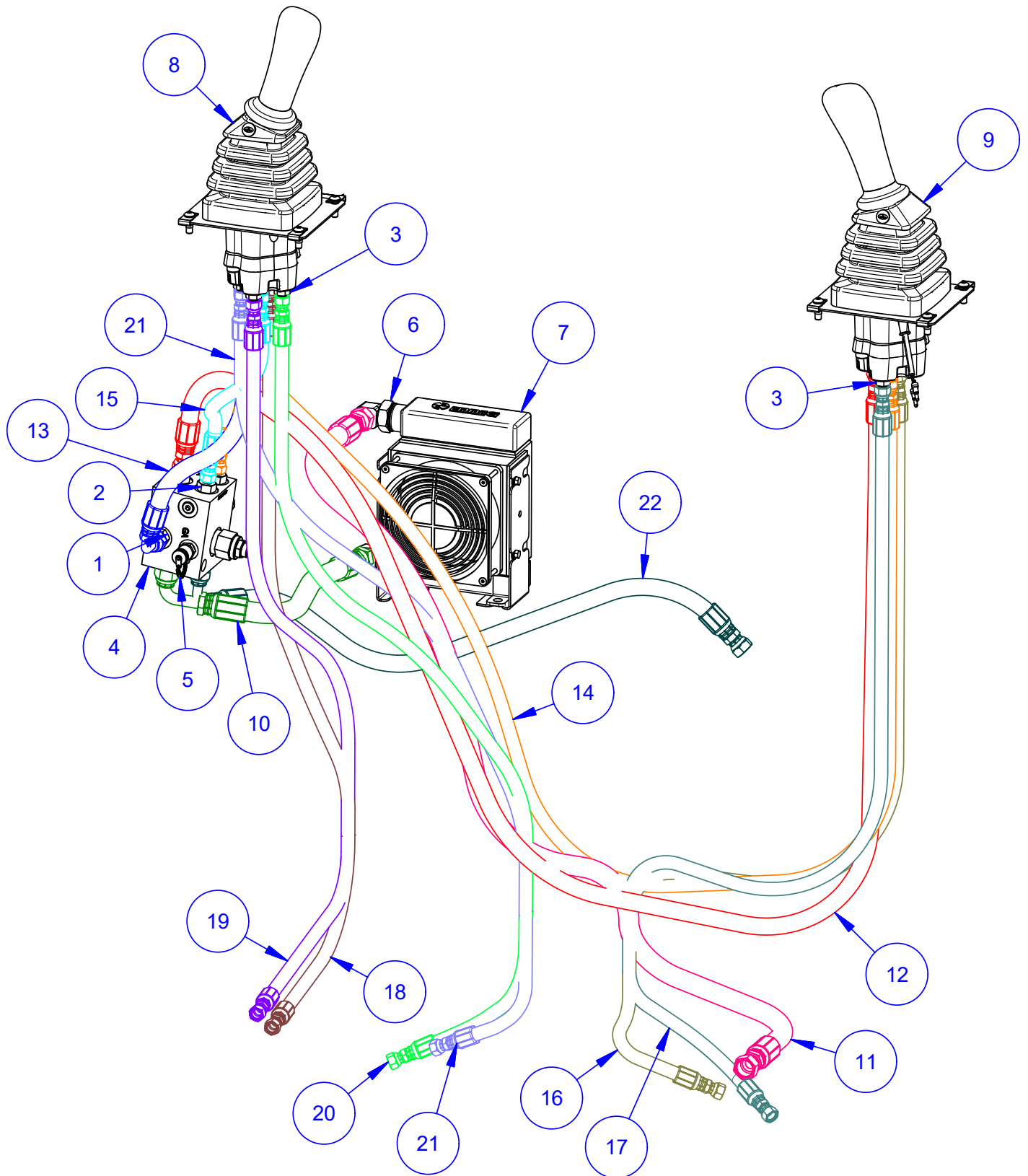
ITEM	PART #	DESCRIPTION	QTY
1	064818	JOYSTICK, LEFT HAND	1
2	064817	JOYSTICK, RIGHT HAND	1
3	048660	FWD/REV. STEERING CYLINDER	2
4	048660	LEFT/RIGHT STEERING CYLINDER	1
5	046735	STEERING MANIFOLD	1
6	046738	HYDRAULIC GEAR PUMP	1
7	034012	SUCTION STRAINER	1
8	049978	RETURN LINE FILTER	1
9	046241	FILTER GAUGE	1
10	FI0350	FILLER BREATHER WITH DIP STICK	1
11	056932	SIGHT LEVEL INDICATOR	1
12	045948	MAGNETIC TANK PLUG	1
13	052930	AIR/OIL COOLER	1
14	050051	MP245 FITTING KIT	1
15	050050	MP245 HOSE KIT	1
-	001002	OIL, HYDRAULIC 46 (DTE25)	2.5

050050 - MP245 HOSE KIT			
NO.	PART #	DESCRIPTION	QTY
1	068070	HOSE, HS-245-1	1
2	068071	HOSE, HS-245-2	1
3	068072	HOSE, HS-245-3	1
4	068073	HOSE, HS-245-4	1
5	068074	HOSE, HS-245-5	1
6	068075	HOSE, HS-245-6	1
7	068076	HOSE, HS-245-7	1
8	068077	HOSE, HS-245-8	1
9	068078	HOSE, HS-245-9	1
10	068079	HOSE, HS-245-10	1
11	068080	HOSE, HS-245-11	1
12	068081	HOSE, HS-245-12	1
13	068082	HOSE, HS-245-13	1
14	068083	HOSE, HS-245-14	1

050051 - MP245 FITTING KIT		
PART #	DESCRIPTION	QTY
049058	F2501-8-8-0	1
045929	F6801-4-4 NWO	1
045915	F6400-6-6-0	3
045922	F6400-4-6-0	2
045921	F6400-8-8-0	1
048730	SMK20-JIC1/4-VK	1
061001	F6802-6-6 NWO	1
052928	9059-08-08	2
045923	F6801-4-6 NWO	6
052903	F2408-6-0 W/ HOLE	1
046884	6402-8-8-0	1
046880	F2404-8-6-0	1
046881	F2501-8-6-0	1
045920	F6801-8-8 NWO	1
046777	F6400-6-4-0	2
045928	F6400-4-4-0	8

SECTION 4 PARTS

Hydraulics - Illustration



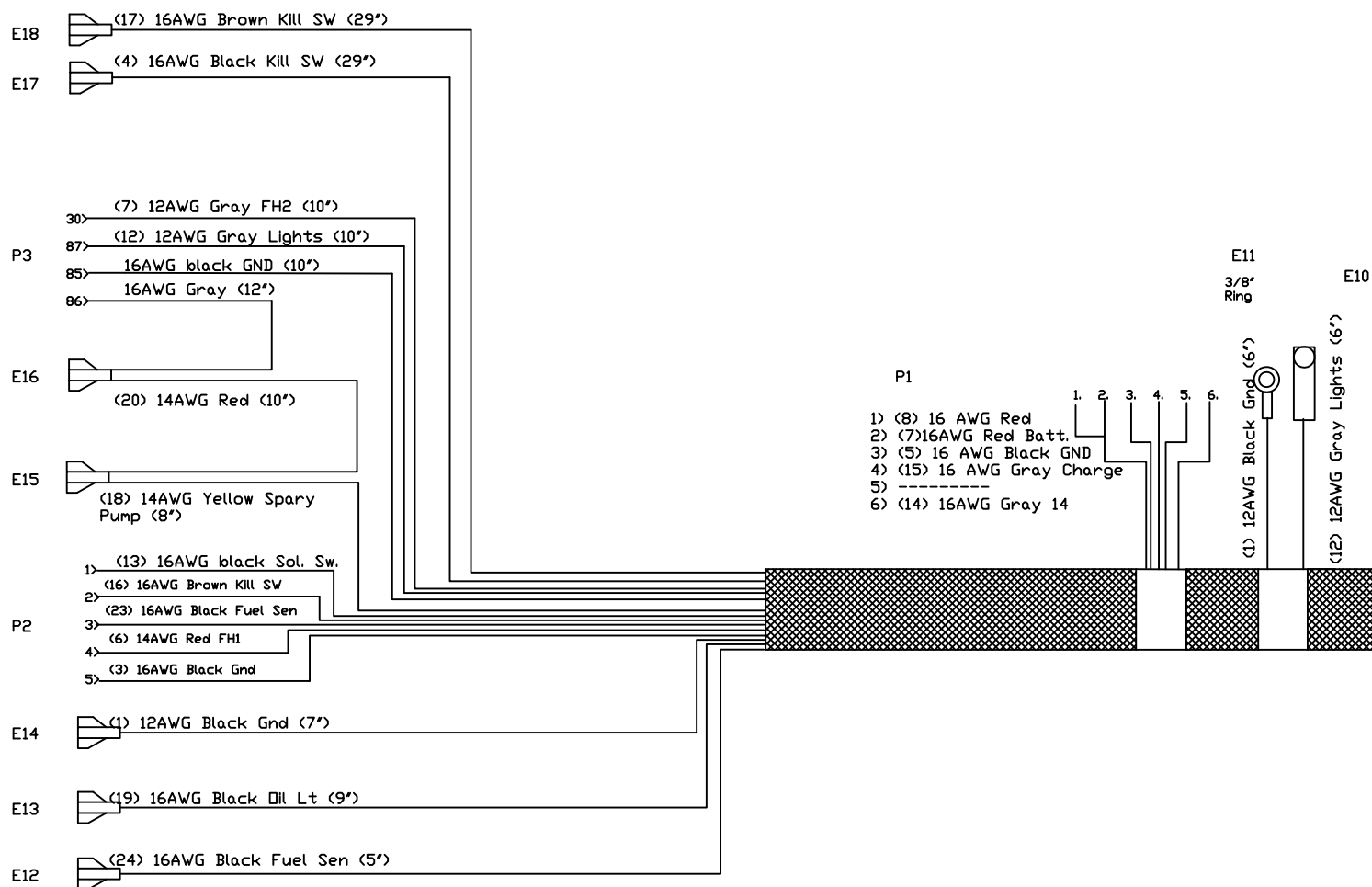
Hydraulics - Parts List

SECTION 4 PARTS

ITEM	PART NO.	DESCRIPTION	QTY
1	045915	FITTING, F6400-6-6-0 STR JIC-SAE	3
2	045922	FITTING, F6400-4-6-0 STR JIC-SAE	2
3	045928	FITTING, F6400-4-4-0 STR JIC-SAE	8
4	046736	MANIFOLD, HYDRAULIC STEERING	1
5	052926	FITTING, HYDRAULIC SMK20-7/16UNF-VE TEST PORT	1
6	052928	FITTING, HYDRAULIC 9059-8-8	2
7	052930	COOLER, AIR/OIL 2005K-12S-BP	1
8	064817	CONTROL VALVE, RH DUAL AXIS	1
9	064818	CONTROL VALVE, LH SINGLE AXIS	1
10	068070	HS-245-1, HYDRAULIC HOSE	1
11	068072	HS-245-3, HYDRAULIC HOSE	1
12	068073	HS-245-4, HYDRAULIC HOSE	1
13	068074	HS-245-5, HYDRAULIC HOSE	1
14	068075	HS-245-6, HYDRAULIC HOSE	1
15	068076	HS-245-7, HYDRAULIC HOSE	1
16	068077	HS-245-8, HYDRAULIC HOSE	1
17	068078	HS-245-9, HYDRAULIC HOSE	1
18	068079	HS-245-10, HYDRAULIC HOSE	1
19	068080	HS-245-11, HYDRAULIC HOSE	1
20	068081	HS-245-12, HYDRAULIC HOSE	1
21	068082	HS-245-13, HYDRAULIC HOSE	1
22	068083	HS-245-14, HYDRAULIC HOSE	1

SECTION 4 PARTS

Electrical Wiring Harness - Illustration 053206

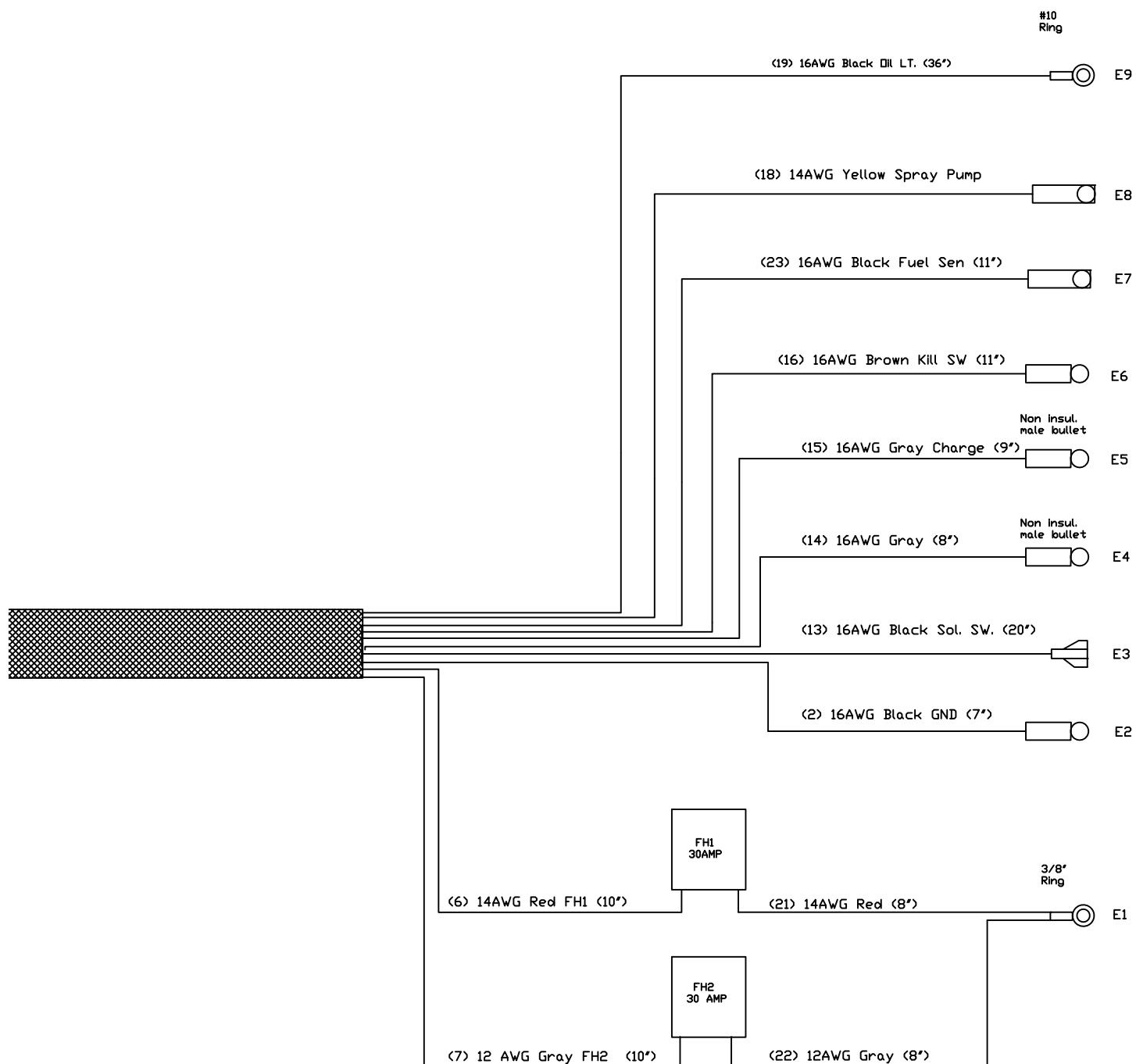


Electrical Wiring Harness - Illustration

053206

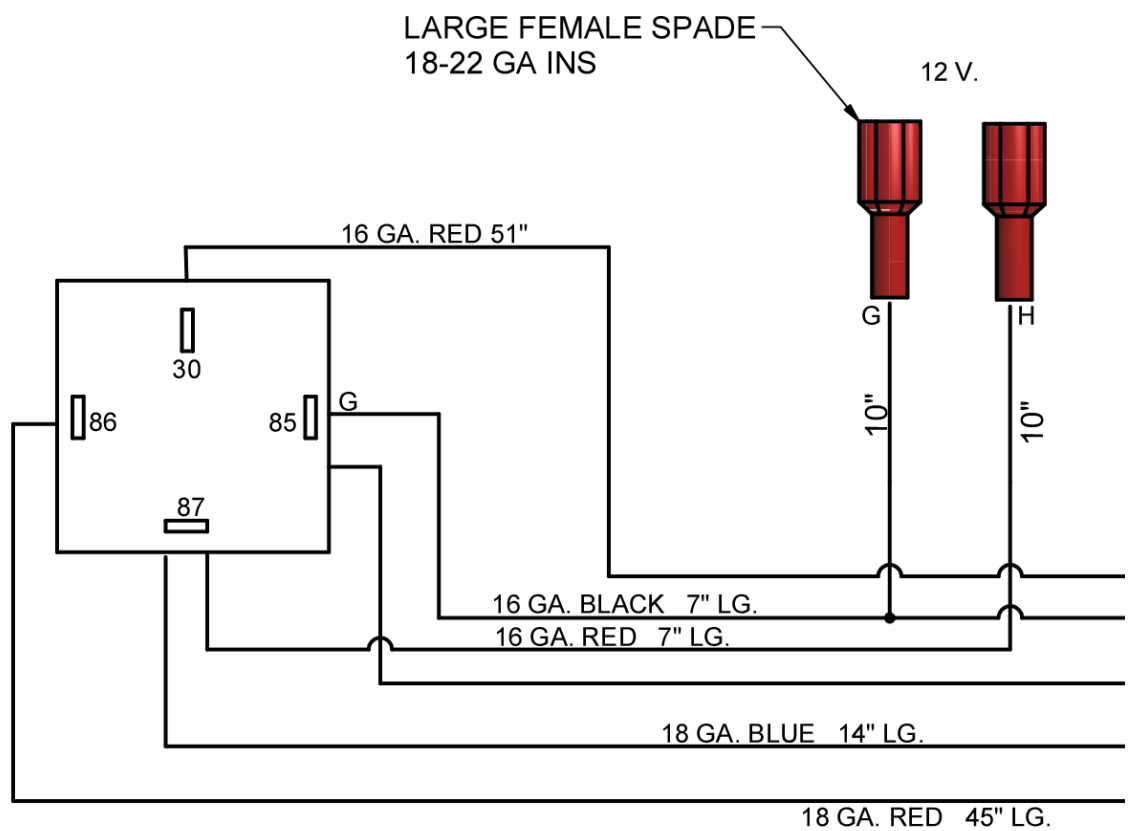
SECTION 4

PARTS



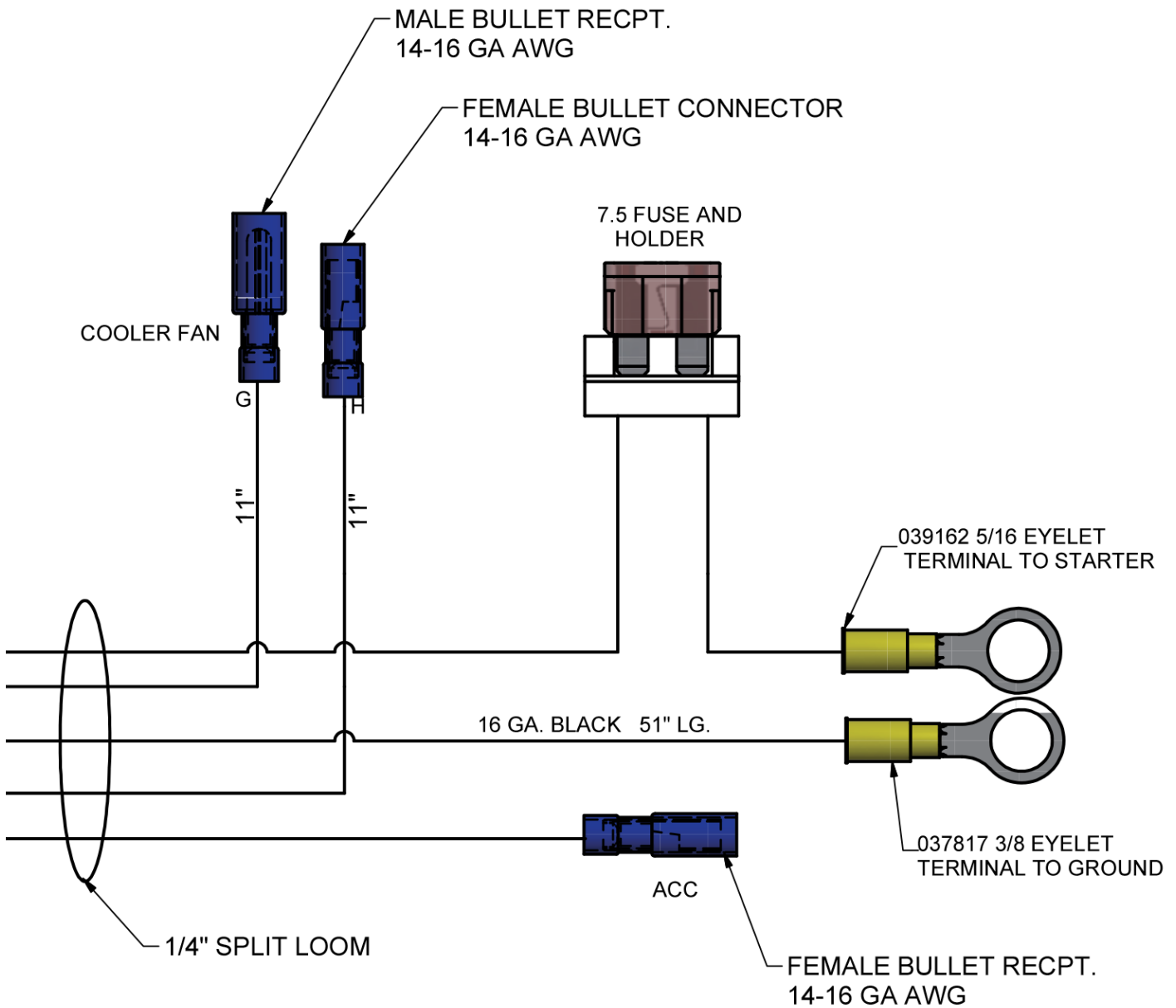
SECTION 4 PARTS

Cooler Wiring Harness - Illustration 059546



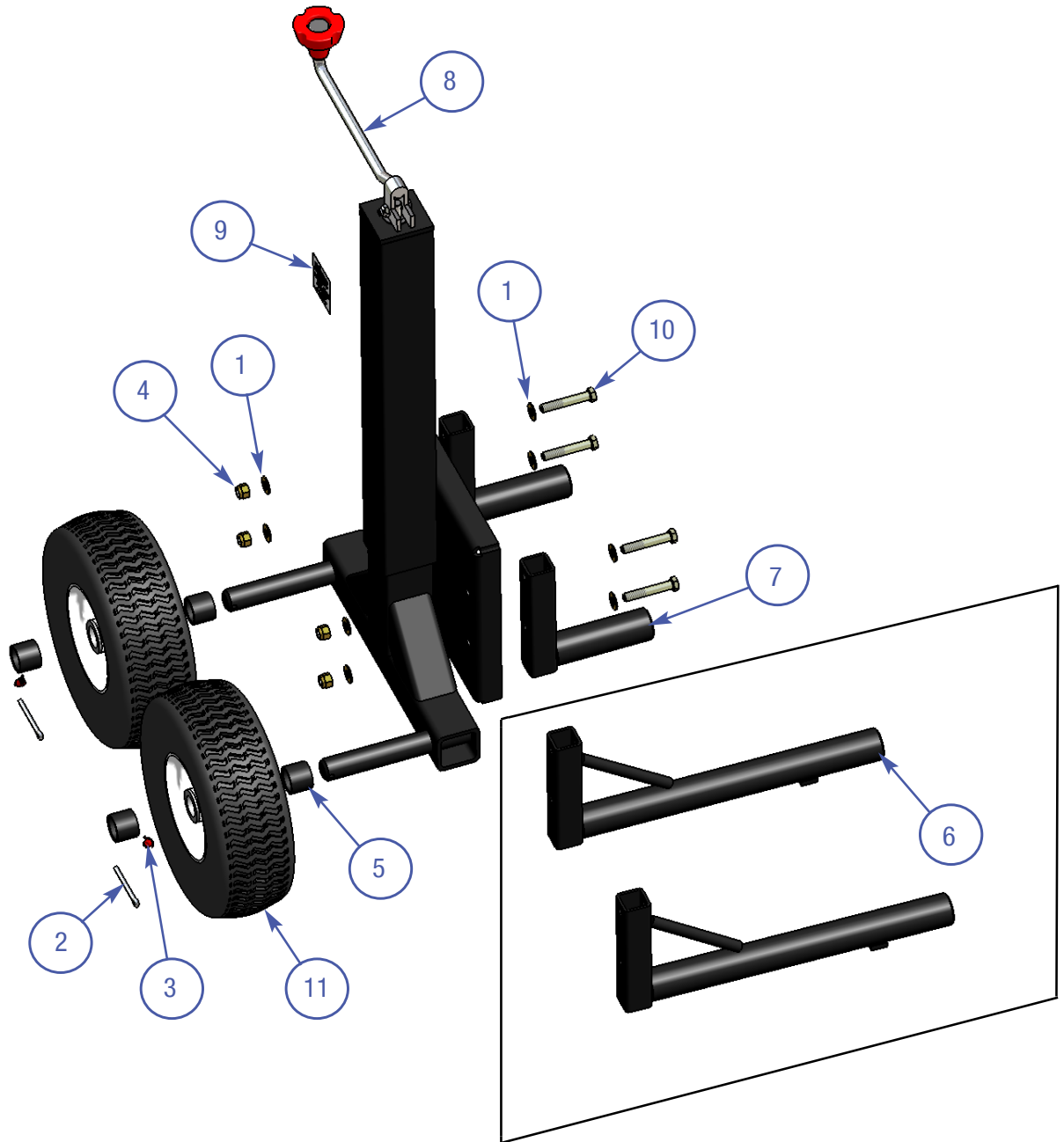
Cooler Wiring Harness - Illustration 059546

SECTION 4 PARTS



SECTION 4 PARTS

Dolly Jack Assembly - Illustration



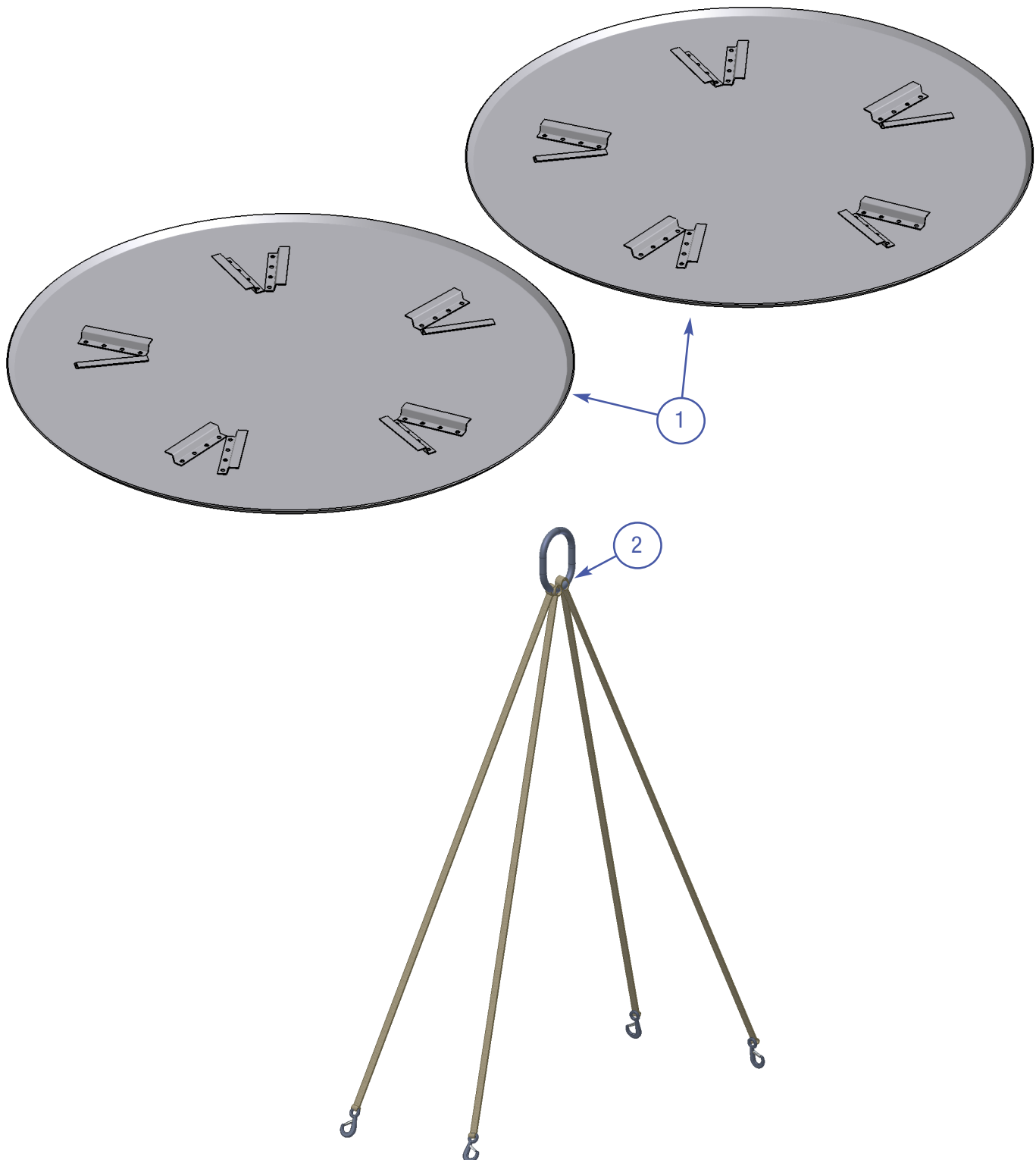
Dolly Jack Assembly - Parts List

SECTION 4 PARTS

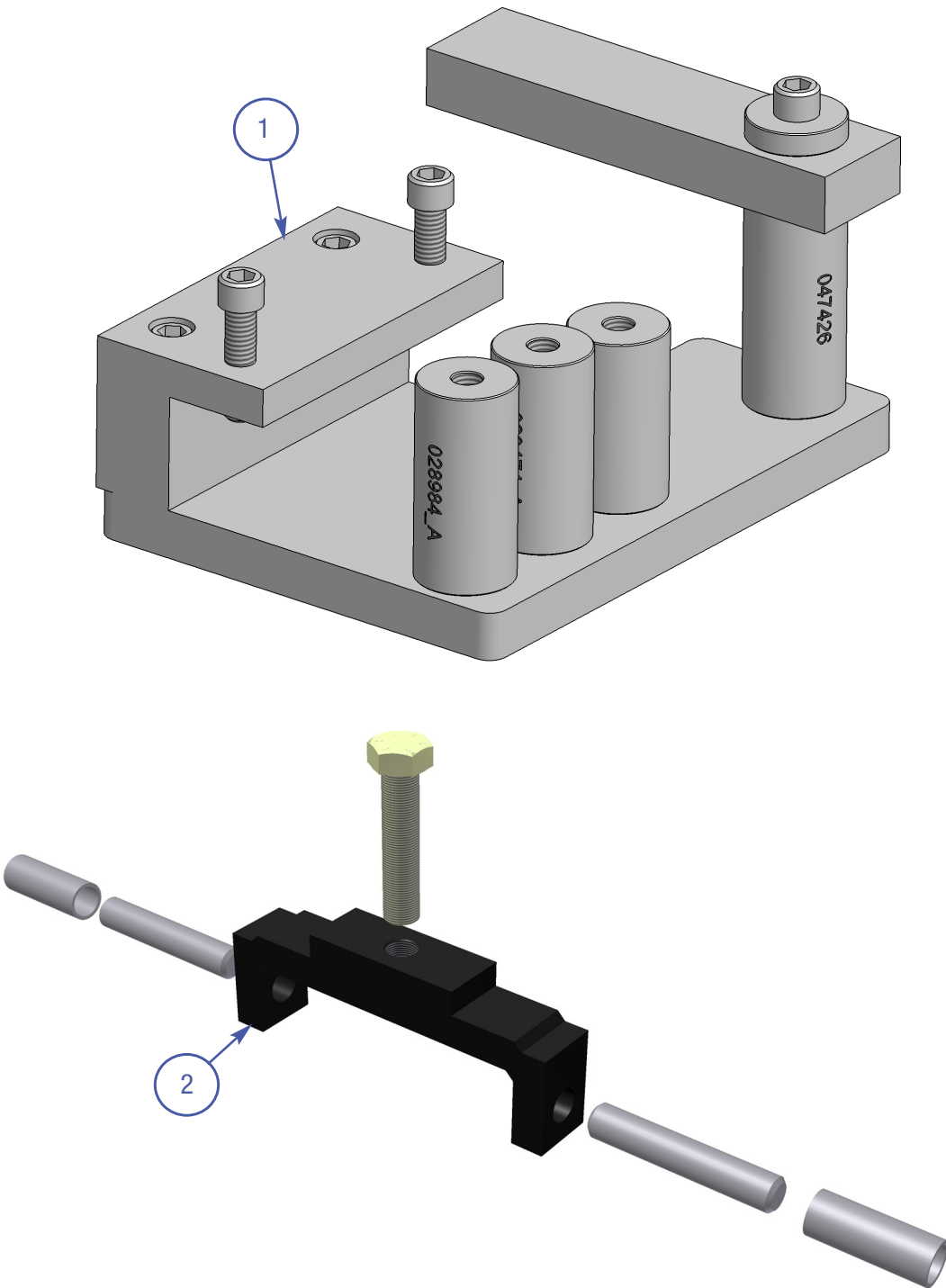
ITEM	PART #	DESCRIPTION	QTY
-	027684	ASSEMBLY, SET, PRO DOLLY JACK	-
1	017751	WASHER, 3/8 FLAT	16
2	010133	PIN, 3/16 X 2 COTTER	4
3	015692	CAP, 1/4 RED GREASE	4
4	010464	NUT, 3/8-16 NYLOCK LOCK	8
5	024628	SPACER, DOLLY JACK WHEEL	8
6	026728	ASSEMBLY, REAR DOLLY TUBE	2
7	026729	ASSEMBLY, DOLLY JACK TUBE	2
8	026938	JACK, DOLLY	2
9	039633	DECAL, DOLLY JACK SYSTEM	2
10	040637	SCREW, 3/8-16 X 2-1/4 GRADE 8 HEX HD CAP	8
11	099014	ASSEMBLY, PNEUMATIC TIRE AND WHEEL	4

SECTION 4 PARTS

Accessories - Illustration and Parts List



ITEM	PART #	DESCRIPTION	QTY
1	047128	PAN, UNIVERSAL 36-1/2" 4-CLIP	2
	047130	PAN, UNIVERSAL 11GA 36-1/2" 4-SAFETY	2
2	035461	BRIDLE, 2500 LB 5 FT SLING LIFT	1



ITEM	PART #	DESCRIPTION	QTY
1	016863	JIG, TROWEL ARM ALIGNMENT	1
2	035688	KIT, STD 4-ARM SPIDER PULLER	1

Revision Detail

MANUAL REVISION DETAIL

REVISION #	REVISION DATE	REVISION REFERENCE #	REVISION BY
-	01/2018	Initial Release	AW
A	06/2018	MN 18-013, 18-056	MW

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U.S. Design Patents: 344,736; 400,542; 400,544; 402,998; 402,999; 403,332; 404,041; 404,042; 410,931; 413,127; 416,564; 465,897; 466,909; 474,203.

U.S. Utility Patents: 5,108,220; 5,238,323; 5,328,295; 5,352,063; 5,405,216; 5,476,342; 5,480,257; 5,480,258; 5,533,831; 5,562,361; 5,567,075; 5,613,801; 5,658,089; 5,685,667; 5,803,658; 5,816,739; 5,816,740; 5,890,833; 5,934,823; 5,967,696; 5,988,938; 5,988,939; 6,019,433; 6,019,545; 6,048,130; 6,053,660; 6,089,786; 6,106,193; 6,857,815; 5,288,166; 6,582,153 B1, 7,108,449; 7,114,876; 7,316,523; 7,690,864 B2

Canadian Patents: 2,039,893.

Printed in U.S.A.



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